Most (and Least) Reliable PCs, Cameras, Printers & TVs p. 78

PCWorld

11 SECURITY THREATS YOU DON'T KNOW ABOUT ...and how to SHUT THEM DOWN

$6.99 USA • Printed in USA
0 74470 37771 9
0 3>
DISPLAY UNTIL MARCH 23, 2010

MUST-HAVE GEAR OF 2010

6 gadgets that will change how you work and play p.20

LAPTOP SMACKDOWN

Nimble netbook or big-screen bruiser? We help you decide p. 89

WEBSITES A

for the success

Customizable, ready-made websites for over 100 business sectors!

EPA GREEN POWER PARTNER

*Visit www.1and1.com for full promotional offer details. Program and pricing specifications and availability subject to change without notice. 1&1 and the 1&1 logo are trademarks of 1&1 Internet AG, all other trademarks are the property of their respective owners.

© 2010 1&1 Internet, Inc. All rights reserved.

MEMBER OF united internet

1-877-MY-1AND1

RE CRUCIAL

of small businesses today.

It's 2010. What are you waiting for?

You don't need a web designer to get started! Building a website is as easy as 1-2-3. Choose your business sector and color scheme, complete your business contact information, and click... your website is ready! No programming skills required! You can make changes directly on your website.

1&1® MyBusiness Site

Try it for FREE!*

Everything you need to get started:

- Content and graphics that you can customize, or insert your own text, images and logo.
- Unlimited number of website pages, web space, and traffic
- No software downloads or programming knowledge required.
- Website address included (Choose from .com, .net, .biz, .org or .info)
- E-mail addresses included
- 24/7 Toll-Free Support

only $9.99 per month after 30-day trial

Visit mybusiness.1and1.com for more information and to view example websites from actual 1&1 customers!

1&1®

www.1and1.com

Windows®. Life without Walls™. Panasonic recommends Windows.

intel Centrino vPro™ inside™

Protect. Manage.

IN YOUR WORLD, YOUR COMPUTER SHOULD BE YOUR FORTRESS.

7 TIMES MORE RELIABLE THAN THE INDUSTRY AVERAGE.

When it comes to rugged and reliable performance, Toughbook® computers deliver. Every Toughbook computer is a triumph of engineering—from the ground up and inside out. With their durable magnesium alloy cases, spill-resistant keyboards and shock-mounted hard drives, Toughbook computers perform, no matter how extreme the demands of your job. Add to that dependable wireless built-in and you have a computer that's ready and waiting. It's no surprise that Toughbook computers, powered by Intel® Centrino® 2 with vPro™ technology, continue Panasonic's 15-year-plus tradition as the leader in rugged mobile computing.

1.888.223.1184 / panasonic.com/toughbook

TOUGHBOOK®

LAPTOP EDITORS' CHOICE BEST NOTEBOOKS OF THE YEAR RUGGED

Toughbook 30

EPEAT GOLD

Toughbook U1

TOUGHBOOK
FOR A TOUGHWORLD™

Toughbook 52* Toughbook 30** Toughbook 19*** Toughbook F8**** Toughbook U1

Panasonic ideas for life

Intel, the Intel logo, Centrino, Centrino Inside, Intel vPro and vPro Inside are trademarks of Intel Corporation in the U.S. and other countries. Toughbook notebook PCs are covered by a 3-year limited warranty, parts and labor. To view the full text of the warranty, log on to panasonic.com/business/toughbook/support.asp. Please consult your Panasonic representative prior to purchase. Panasonic is constantly enhancing product specifications and accessories. Specifications subject to change without notice. (*CF-52EV, CF-52GF and CF-52GU, **CF-30K, ***CF-19K, ****CF-F8EW are Intel® Centrino® 2 with vPro™ technology) ©2010 Panasonic Corporation of North America. All rights reserved. Fortress_H_FY09-2

68

PCWorld

MARCH 2010
Volume 28 • Number 3 • pcworld.com

64

» FEATURES

68 How to Stop 11 Hidden Security Threats
Think your PC is safe from attack? Our look at today's most virulent threats explores how you can shore up your defenses. Plus, we debunk five security myths.

78 Technology's Most (and Least) Reliable Brands
Our survey of *PCWorld* readers reveals which vendors provide the most trouble-free products and the strongest service and support.

89 Laptop Prize Fight
Netbooks vs. ultraportables; desktop replacements vs. all-purpose units: We weigh the pros and cons of each notebook type—and match the top contenders in the ring.

» DEPARTMENTS

7 Techlog

9 PCW Forum

104 The Back Page

» FORWARD

12 3D Comes Home
New HDTVs and other 3D tech promise to change entertainment.

16 Beta Watch

18 GeekTech

» CONSUMER WATCH

23 E-Book Piracy Grows
Piracy fears among publishers are limiting the flow of e-books.

24 Skeptical Shopper

26 On Your Side

» BUSINESS CENTER

29 Make Your Website Visible
How to rank high in search results.

30 Net Work

32 Tech Audit

» SECURITY ALERT

41 Windows 7 vs. Malware
Better security may curb exploits, but not social engineering attacks.

42 Bugs and Fixes

44 Privacy Watch

» REVIEWS AND RANKINGS

46 Pico Projectors Get Serious
Pocket-size portable projectors add new features for business use.

54 Top 10 Multifunction Printers

56 Barnes & Noble Nook

58 Top 10 Cell Phones

61 Canon PowerShot SX20 IS

64 Acer R3610, Asus ET2002, Lenovo Q100

66 Download This

46

» HERE'S HOW

94 Multiplatform Home Network
Share files and printers with XP, Vista, and Windows 7 systems.

99 Answer Line

101 Rick Broida's Hassle-Free PC

KVCHOSTING.com
THE BEST HOSTING SOLUTIONS
GREAT DEALS on WEB HOSTING PLANS
Endless Space and Unlimited Bandwidth at affordable prices

20% off with "PCWORLD"
We Offer: SHARE, RESELLER, VPS and DEDICATED hosting.
www.kvchosting.com/pcworld
CPANEL 11 & Fantastico
FREE DEDICATED IP
FREE DOMAIN NAME & IP
RVSITEBUILDERS (500 TEMPLATES)
UNLIMITED (POP3, SMTP, IMAP)
35 ADD ON DOMAINS
24/7 support (level3)
99.99% uptime guaranteed
PHP5, Mysql, Curl, Fsockopen, suPHP, Zend Optimizer,
Frontpage Extention, More...
50+ SEO TOOLS
$25 Adwords Credit
FREE WEBSITE TEMPLATES
DOMAIN REGISTRATION
with FREE PRIVACY for only $8.95/year
Instant Setup & Fast Server
Green Hosting & No Oversell
PayPal VISA DISCOVER Google Checkout
www.kvchosting.com

PCWorld

CONTACT INFORMATION

PHONE:
415/243-0500

FAX:
415/442-1891

E-MAIL:
letters@pcworld.com

MAIL:
PCWorld Editorial
501 Second St. #600
San Francisco, CA
94107

STAFF E-MAIL AOORESSES:
To contact any *PCWorld* staff member, simply format the address as follows: *firstnome_lostnome@* pcworld.com

OTHER WAYS TO READ PCWORLD

RSS:
pcworld.com/resource/rss.html

COMMUNITY:
forums.pcworld.com

NEWSLETTERS:
pcworld.com/newsletters

TWITTER:
@pcworld

FACEBOOK:
find.pcworld.com/60983

WIOGET:
pcworld.com/resource/widget.html

Please Recycle This Magazine
PRINTED WITH SOY INK

VP, EDITORIAL DIRECTOR Steve Fox
EDITOR Edward N. Albro
MANAGING EDITOR Kimberly Brinson

EDITORIAL

SENIOR EOITORS
Jason Cross, Anne B. McDonald, Tim Moynihan, Melissa J. Perenson, Melissa Riofrio, Tom Spring, Robert Strohmeyer

SENIOR ASSOCIATE EDITORS
Liane Cassavoy, Mark Sullivan

ASSISTANT EOITOR Nick Mediati

STAFF EOITORS Ginny Mies, Patrick Miller, Nate Ralph

NEWSLETTER EDITOR Kim Saccio-Kent

SENIOR COPY EOITORS
Stephen Compton, Steven Gray, Tracy Yee-Vaught

EOITORIAL INTERNS
Rachel Sadon, Leah Yamshon

ART AND DESIGN

DEPUTY ART OIRECTORS
Jeff Berlin, Beth Kamoroff

OIGITAL IMAGING SPECIALIST/ PHOTOGRAPHER Robert Cardin

CONTRIBUTING IMAGING SPECIALIST/ PREPRESS COLOR Marianna Whang

CONTRIBUTING EDITORS

Danny Allen, Yardena Arar, Steve Bass, Laura Blackwell, Rick Broida, Scott Dunn, Stuart J. Johnston, Erik Larkin, Stephen Manes, James A. Martin, Harry McCracken, Aoife M. McEvoy, Marla Miyashiro, David Murphy, JR Raphael, Scott Spanbauer, Lincoln Spector, Kirk Steers, Carla Thornton, Dan Tynan, Robert Vamosi, Peggy Watt

PCWORLD LABS

OIRECTOR Jeffrey Kuta

MANAGER OF BENCHMARK OEVELOPMENT James Motch

SENIOR PERFORMANCE ANALYST Elliott S. Kirschling

SENIOR OATA ANALYST Tony K. Leung

OEVELOPMENT ANALYSTS Thomas Luong, William Wang

INTERN Patrick Waters

COMMUNITY

MODERATORS Richard Green, Michael-Paul Higgins, Scott Maxwell, Charlie Spivey

MAILING LISTS

Occasionally we make our subscribers' names available to other firms whose products may interest you. To have your name excluded from these mailings, send a request and your mailing label to PCWorld Subscriber Services, P.O. Box 37571, Boone, IA 50037-0571, or e-mail us at maghelp@pcworld.com.

REPRINTS AND PERMISSIONS

You must have permission before reproducing any material from PCWorld. Send e-mail to permissions@pcworld.com; please include a phone number.

PCW COMMUNICATIONS

PRESIOENT, CEO Michael Kisseberth

SENIOR VP, COO/CFO Vicki Peilen

EXECUTIVE VP, GENERAL MANAGER, ONLINE Stephan Scherzer

WESTERN VP, HUMAN RESOURCES
Kate Coldwell

FOUNDERS

FOUNOER David Bunnell

FOUNOING EOITOR Andrew Fluegelman

INTERNATIONAL DATA GROUP, INC.

CHAIRMAN OF THE BOARO
Patrick J. McGovern

CEO, IOG COMMUNICATIONS
Bob Carrigan

SUBSCRIPTION SERVICES

Access your subscription account online—24 hours a day, 7 days a week—at pcworld.com/customer. You can use online subscription services to view your account status, change your address, pay your bill, renew your subscription, report a missing or damaged issue, get the answers to frequently asked questions, and much more.

MAIL: PCWorld Subscriber Services, P.O. Box 37571, Boone, IA 50037-0571 (Include a mailing label with correspondence.)

WEB: pcworld.com/customer

E-MAIL: maghelp@pcworld.com (Send your full name and the address at which you subscribe; do not send attachments.)

PHONE: In the U.S. 800/234-3498
New orders 800/825-7595

FAX: 515/432-6994

QUESTIONS AND SUBMISSIONS

Send material electronically to the appropriate online address listed below, or mail it to *PCWorld*. We reserve the right to edit letters.

ANSWER LINE: Visit forums.pcworld.com to ask your question in the Answer Line forum.

BUGS ANO FIXES: bugs@pcworld.com

ON YOUR SIOE:
onyourside@pcworld.com

PCW FORUM: forums@pcworld.com

PRIVACY WATCH:
privacywatch@pcworld.com

RICK BROIDA'S HASSLE-FREE PC:
hasslefree@pcworld.com

THE BACK PAGE:
thebackpage@pcworld.com

BACK ISSUES

Starting with the March 2003 issue of *PCWorld*, back issues are available at pcworld.com/backissues. Back issues cost $8 per issue for U.S. delivery, and $12 for international delivery; prepayment in U.S. currency to *PCWorld* is required. Or send a check or money order to PCWorld Products, P.O. Box 37781, Boone, IA 50037-0781; phone 800/967-2083 (U.S. and Canada) or 515/243-3273 (all other locations); or e-mail mw1prod@cdsfulfillment.com.

To use any find.pcworld.com/xxxxx URL in the magazine, enter it as shown in your browser's address field.

AVIRA
More Than Security

Have You tried it YET?

Protecting over 100 million USERS!

Don't be a victim! Get your **FREE** trial NOW at: **www.avira.dsolution.ca**

Avira has been providing over 2 decades of protection against viruses, worms, trojans, spyware, droppers, exploits and other attacks.

Act NOW and protect yourself TODAY!

DSOLUTION

Providing High End Security Solutions

Toll Free: 1-866-279-0239
Web: www.dsolution.ca
Email: sales@dsolution.ca

AVIRA

Malwarebytes

Become a reseller - www.reseller.dsolution.ca

Crucial has over 280,000 possible memory upgrades. There's one to meet your needs and your budget.

At Crucial, we're the Memory Experts℠. A DRAM upgrade makes computing easier. We have guaranteed-compatible upgrades for nearly every system out there — desktop or notebook, PC or Mac®.

For product information, online tools and more go to www.crucial.com/pcworld

crucial™
The Memory Experts℠

*For a limited time, place an order over $40 at www.crucial.com/pcworld and get free shipping (7-12 business days) within the contiguous U.S.

©2009 Lexar Media, Inc. All rights reserved. Information is subject to change without notice. Crucial and the Crucial logo are trademarks and The Memory Experts is a service mark of Micron Technology, Inc. All other trademarks are the property of their respective owners. Lexar Media, Inc. is a subsidiary of Micron Technology, Inc. Lexar Media, Inc. is not responsible for omissions or errors in typography or photography. Ad expires 30 days after publication.

Techlog

STEVE FOX

Tech Products: Revolting but Not Rebelling

IT'S A STAPLE of science fiction: Technology keeps getting smarter, adding capabilities, and making our lives easier. Then one day—blam!—our creations turn on us, and we're looking at a computer rebellion. Think *Blade Runner, 2001* (remember HAL, the supercomputer with issues?), *Battlestar Galactica,* and more. There was even a book in 2005 with the intriguing title *How to Survive a Robot Uprising: Tips on Defending Yourself Against the Coming Rebellion.*

My advice: Relax. Humanity is safe, at least for the foreseeable future.

You see, science fiction got it wrong. Despite decades of research and development, our state-of-the-art technology too often fails to work as it should. That's why I have to reboot my Wi-Fi router at least once a week; why my fingerprint-recognition pad periodically forgets what my thumb looks like; and why my smartphone keeps dropping calls without provocation.

Given the state of technology today, I can easily envision the real cyber-uprising. Just as the evil supercomputer prepares to snuff out humanity, a hiccup occurs, and up pops a Blue Screen of Death. So humankind is saved—at least until someone reboots the would-be silicon overlord.

Buyers Get a Raw Deal

My skeptical take on tech was reinforced this month when I reviewed the results of *PCWorld*'s annual Reliability and Service survey (see "Technology's Most (and Least) Reliable Brands," page 78). As we've done for many years, we asked readers—about 45,000 of them this year—to tell us how their recent laptop, desktop, printer, HDTV, and camera purchases have fared. Did the hardware work out of the box? Or did it break or not perform as advertised? Did substantial problems occur down the line? And how did the manufacturers handle inevitable repairs?

The results, in a nutshell, are dismal. The best and brightest scientific and engineering minds continue to crank out sophisticated technology—replete with incredible bells and whistles—that doesn't work, doesn't meet expectations, or breaks easily and often.

Consider these numbers: 35 percent of desktop users told us that they had experienced a "significant problem" with their machine; 15 percent had a "core component problem." More shocking, 18 percent never had the problem resolved. Laptop users had only slightly better odds, while HDTV and camera buyers were the luckiest, with 9 percent and 8 percent, respectively, reporting significant problems.

I'm not encouraged by those figures, which indicate that consumers have a nearly one-in-ten chance of buying a TV or camera that simply doesn't cut it.

Admittedly, the consequences of product failure may not be as dire as in years past. Prices on tech gear have been dropping for ages; yesterday's well-considered purchase decision is now often little more than an impulse buy. Besides, people may not be expecting their electronic equipment to last all that long in the first place. According to Danielle Levitas, senior analyst covering consumer technology for the consultancy IDC, "for the last eight years, the cycle for replacing devices has shortened; consumers bought into the notion that portable electronics were disposable."

The pace of technological change has become so rapid, in fact, that your spanking-new TV, laptop, or phone is outdated almost as soon as it arrives at your doorstop. While that may be a depressing reality, it could also take a bit of the sting out of an unsatisfactory tech purchase. Unhappy? Go out and buy a newer, cheaper, shinier version for less money than you paid the first time.

According to Levitas, though, over the last 18 months, the poor economy has altered the buy-and-replace cycle, as consumers hang on to devices longer. In this scenario, reliability matters even more than it used to.

Which is why I'm discouraged by the results of this year's survey. Yes, we saw slight improvements in reliability and user satisfaction over previous years. But at this rate, it will be millennia before the first robot uprising.

And I don't have that much time.

Steve Fox is editorial director of PCWorld.

GoToMyPC:
It's this easy.

You can be a Mac®, PC or both — whatever your preference, you can instantly access your computer from any Internet connection with GoToMyPC. It sets up automatically, is as secure as online banking and comes with free U.S.-based customer service available 24/7. Just click to take your office with you wherever you go.

free 30-day trial | gotomypc.com | promo code: pc

GoToMyPC®

Mac Universal

by CITRIX

PCW Forum

In migrating over to Windows 7, some users have been running into issues. Letters this month reflect those problems—or offer solutions. We discussed several options last month; see "Fix Four Common Windows 7 Upgrade Problems" in the February issue, or go online to find.pcworld.com/64325.

Windows 7 Too Expensive?

I downloaded Windows 7 RC1 and am impressed by its general operation, but I see no advantage to many of the interface changes ["The State of Windows 7 Satisfaction," *Forward,* February].

My primary objection to Windows 7 is cost. I estimate that a permanent upgrade to Windows 7 would be approximately $700. That figure includes the cost not only of the operating system but also of upgrading software, finding new drivers for hardware, and replacing some hardware that does not have compatible drivers available. I find that cost totally unacceptable, and will stick with Windows XP until I can no longer function using it.

I am a private user. For many businesses, I'm sure, the cost to upgrade to Windows 7 will be too high. I get the feeling that Microsoft is trying to make too much money too fast.

Wayne Brazie, Orlando, Florida

Windows Easy Transfer

Every article I've ever read on the subject of Windows Easy Transfer neglects to inform the reader that one may transfer files to a second hard drive in the computer that is undergoing an OS upgrade. Your article "Ten Essential, Inexpensive Windows 7 Downloads" [January] is no exception. This program doesn't care where the copied files will be sent as long as the drive has the capacity to hold them.

Using Windows Easy Transfer, I copied my files from the C: drive to the D: drive before formatting the former and doing a clean install of Windows 7. Afterward, I reversed the process.

As a bonus, the transfer between internal hard drives is much faster than through a USB cable to an external drive. (And internal drives usually cost less than external ones.)

Switching PCs? Just take out your second drive—the one loaded with your files—and put it in your new computer.

Jan Sershen, Cañon City, Colorado

Windows 7 64-Bit Gotcha

Recently I helped a client buy a personal laptop. A major retailer had a great price on a 17-inch HP laptop; my only concern was that it was preloaded with the 64-bit version of Windows 7.

When we went to set up his new machine, we kept getting hangs in Internet Explorer. I noticed that the hangs occurred on pages with Flash content.

When I went to Adobe's site to grab the latest version of the Flash player, I saw a note that Flash did not support 64-bit browser versions. Since the HP laptop had both the 32- and 64-bit versions of IE, I surmised it was getting confused about which version to use.

An installation of Firefox eliminated the problems. The client is now able to access all of the online content that was hanging under IE.

Many other people, however, may encounter this stumbling block.

Quinton Lee, MIS
Indianapolis

Windows 7's XP Mode

The XP Mode article ["What You Need to Know About XP Mode," *Net Work,* January] highlights most of its features, but overlooks a few significant ones. XP Mode provides a way to run 16-bit applications. Windows 7 probably will run most 32-bit apps, but it will not handle 16-bit programs without XP Mode. (Some of us hang on to a few 16-bit apps for one reason or another.)

I presume David Coursey is not a Droid user ["Six Reasons to Not Like Google's Nexus One," find.pcworld.com/64326], or he would understand. Google's Nexus One is the phone I really wanted—thin, with an AMOLED screen and Google's Android OS. I have gotten so used to the keyboard that I am buying another Droid for my wife.
TomMariner, PCWorld.com forums

Other issues: Microsoft recommends 3GB of RAM (with 64-bit Windows 7). Virtual PC, as well as a special version of XP, must be downloaded. The BIOS must be set to virtualization, too.

XP Mode does a respectable job. However, if an app runs in XP, that does not mean it will be fully functional in XP Mode. A second load of a virus checker appears to be necessary, as well.

Dennis Palazzolo
West Bloomfield, Michigan »

ILLUSTRATION HARRY CAMPBELL

The Key To Your Success

❖Reseller Hosting
❖Reseller VPS
❖VPS Under $10
❖100 Gig Email Boxes
❖Government Compliant Email Archiving
❖Windows Hosting
❖Unix Hosting
❖cPanel
❖DotNetPanel
❖Cloud Virtual Disk
❖100% American Based

25 Gig VPS $10 per month

ZINGAWEB America's Web Host

ZingaWeb.net

PCW Forum

Slow Connections

In "Breakthrough Tech" [January], Glenn Fleishman says that eSATA is "increasingly out-of-favor" and quotes some analysts predicting that it will take another couple of years for us to get USB 3.0. The only ultrafast direct connection to the main bus, eSATA, has barely shown up on computers, and its demise is already announced. After hearing about USB 3.0 for years, we're now told to wait longer for widespread availability. Is there a conspiracy to keep us common users in the slow lane?

J. Louis Arcand, Hallandale, Florida

A Speed-Up Skeptic

Regarding "Speed Up Everything" [January]: For most halfway-experienced users, none of these "fixes" will do much. Feel free to try them, but don't expect a wondrous increase—and I think that's what this article implies.

HeroofAvalon, PCWorld.com forums

Network Speed Settings

In the "Accelerate Your Network" section of "Speed Up Everything," one recommendation—namely, "Change Network Card Settings"—could actually slow down the network connection. The author suggests turning off autonegotiation and changing 'Link Speed & Duplex' to its highest setting.

The way the autonegotiation feature works is that if both the PC network card and the switch port that it is connected to are set to autonegotiation, then the devices agree on the highest possible setting that they both can support. When one side of the connection is reset as recommended and the other side is on autonegotiate (as most network switches are), problems will occur. The autonegotiation feature on a 100-mbps switch port will set the autonegotiated port to 100 speed and half duplex; as a result, one end of the connection will be full duplex and the other end will be half duplex. This arrangement will slow the network down.

I know this article is geared toward home networks; however, once the setting is changed on a laptop that goes back and forth between home and office networks, it will perform much slower in the office as well. In addition, most home switches are not managed switches, and therefore you can't verify the settings to see this speed/duplex mismatch—but it still occurs.

The *only* time someone should reset the speed and duplex on their PC is when they know for sure that the associated switch port is similarly set.

Ken Boone
Boone Networking Services
Pelzer, South Carolina

In the "Speed Up Everything" article, you say to switch your 'Link Speed & Duplex" to its highest available setting. This is not a good idea if you have a gigabit (1000-mbps) ethernet port in your PC, but have other networking equipment (or another PC) that is capable of only 100-mbps connectivity. For example, many cable and DSL modems do not have gigabit ethernet ports, and if your PC is directly connected to the modem, you have just effectively disconnected yourself from the Internet. The right way to fix this is to find the setting that your autonegotiate routine normally settles into, and then choose that same manual setting.

Mike Niles, La Pine, Oregon

PCWorld welcomes your feedback. We reserve the right to edit for length and clarity. Share your thoughts in the Comments area under each story on our Website, or visit our Forums (find.pcworld.com/55165). Send e-mail to letters@pcworld.com. ●

CORRECTIONS

CONTRARY TO a statement in "PC Performance Myths" (in "Speed Up Everything," January), the option to automatically run defragmentation came with Windows Vista, not XP.

In January's *Beta Watch*, we misspelled the term *Gantt chart*.

PC World regrets the errors.

300Mbps Ultimate Wireless N Gigabit Router

- Gigabit ports and 300Mbps wireless speed great for HD video streaming
- Easily share USB storage with all users on your network
- QSS button for quick security setup

79.99 MSRP

TL-WR1043ND

300Mbps Wireless N PCI Adapter

- Wireless speed up to 300Mbps
- MIMO technology providing better performance and stability
- CCA technology automatically avoids channel conflicts using its channel selection feature

34.99 MSRP

TL-WN651N

150Mbps Wireless Lite N Router

- Exceptional wireless speed up to 150Mbps
- QSS button for quick security setup
- SPI firewall and access control management for safer usage

34.99 MSRP

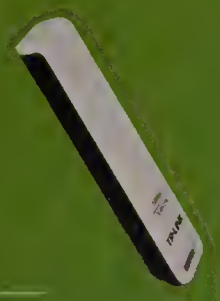
TL-WR740N

150Mbps Wireless Lite N USB Adapter

- Exceptional wireless speed up to 150Mbps
- Wireless security encryption easily at the push of a QSS button
- Supports sony PSP for online gaming

19.99 MSRP

TL-WN721N



Find these and other great TP-LINK products online through these vendors:

Fry's Electronics · newegg.com · amazon.com · Buy.com The Internet Superstore · mwave shop smart, shop mwave · TigerDirect.com

TP-LINK
The Reliable Choice

3D Comes Home

Is the latest attempt at bringing 3D to the living room a mere gimmick—or a disruptive technology that will transform how we think about TV?

BY MELISSA J. PERENSON

PANASONIC'S VIERA TC-P50VT25 HDTV and its DMP-BDT350 Blu-ray Disc player, both 3D-capable, are due out in the summer. The HDTV will come bundled with one pair of active-shutter glasses.

3D IS BACK. And this time, it's making a big statement. The concept isn't new, of course—the first 3D motion picture dates back to the turn of the twentieth century. But a growing string of recent Hollywood releases, cemented by the runaway success of *Avatar*, has returned 3D to our cultural consciousness.

For the first time, though, 3D is being positioned not just for theatrical and professional venues but also for homes. Few observers expect this sea change to happen overnight—but it is coming.

The consumer electronics industry has been putting the elements for a 3D revolution into place surprisingly quickly. Every major manufacturer has revealed its 3D plans for 2010, with most companies setting a summer launch for their 3D-enabled televisions. Summer will also see 3D-enabled Blu-ray players. (For more on what all of this means for your current home theater setup, see page 18.) For filmmakers, a 3D camera will arrive in the fall: Panasonic's $21,000, professional-grade Full HD camcorder will be able to record video from each of its twin lenses to SDHC cards.

Broadcasters are getting into the act, too. BSkyB is among the networks working on 3D channels. ESPN's channel, launching in June, will show 85 sporting events in 3D. And Sony is partnering with Discovery and Imax to

PCWORLD.COM

For more about today's home 3D technology, including a look at how the different types of glasses work, point your browser to "Getting Behind the Scenes With 3D HDTV" at find.pcworld.com/69397.

AVATAR IMAGE COURTESY OF FOX

have a 3D channel by 2011.

Film content is already available, and will be growing thanks to the *Avatar* effect. Last year 17 3D films came out; more than a dozen such titles are scheduled for 2010. And 2011 will likely be a banner year for 3D movies as Hollywood rushes to replicate *Avatar*'s success.

3D's Growing Appeal

Since 3D theatrical releases routinely earn more revenue than their 2D counterparts, it's no shock that Hollywood and the consumer electronics industry are eager to bring 3D into the home. And the focus isn't just on movies: 80 percent of PC games are currently available in 3D.

"Consumers are willing to pay more money to watch a movie in 3D than to watch it in 2D," notes Jennifer Colegrove, director of display technologies at DisplaySearch, citing 3D's immersiveness. "So [manufacturers] are naturally thinking about 3D for the home—on a computer, a notebook, a TV, a mobile phone."

Research into what consumers want has begun in earnest. Sony is partnering with CBS to study what audiences expect from home 3D. Last year the Consumer Electronics Association and the Entertainment Technology Center released a study in which 50 percent of surveyed consumers said they would pay more for a 3D TV; 40 percent of the respondents preferred 3D to 2D.

We don't know how much companies will charge for 3D TVs (or content). Clearly, 3D represents a new revenue stream, and consumer electronics makers will put some premium on it (simply because they'll have 3D on their top-tier products). But industry executives have told me that they are aware of the risk of stifling 3D's prospects if they price it into the stratosphere.

Another factor that might hold back 3D's potential is the "dorky" image of 3D glasses. Special glasses are a requirement for all variations of the active-shutter technology that television makers are using. RealD is providing glass technology to a number of TV manufacturers, but the eyepiece design may vary dramatically. Right now, there's no guarantee that glasses will be compatible across manufacturers (though the Consumer Electronics Association is trying to get companies to agree on this point). The glasses won't be cheap, either—and 3D-enabled TVs may not ship with them by default. So far, only Sony's top-of-line Bravia LX900 HDTV will come packaged with two pairs of glasses.

One factor that might hold back 3D's potential is the 'dorky' image of 3D glasses. Special glasses are a requirement for all variations of the active-shutter technology that television makers are using. The eyepiece design may vary, though.

Few experts see 3D claiming a big chunk of the market. According to DisplaySearch, just over 1 million 3D-ready TVs will ship in 2010 (representing 0.1 percent of total shipments); by 2018, the number will be 64 million (20 percent of the market). That's less than the CEA's estimate of 4.3 million 3D-capable TV sets shipping in 2010. DisplaySearch expects 3D-ready monitors to grow to 10 million by 2018 (3.6 percent penetration), and it foresees a similar trajectory for 3D laptop systems. Mobile phones will be the largest 3D-display shipment by 2018, with 71 million units, DisplaySearch predicts.

The challenge will be to get hardware into homes. "It's about presenting enough of a compelling story to get people excited about buying new equipment," says Rick Dean, chairman of the 3D@Home Consortium and VP of strategic development for THX. "New Blu-ray players are required. New displays are required. But it's not just about how we're going to deliver 3D content; it's about the user experience."

Not Just New Movies

Blu-ray Disc will play a big role in the 3D revolution. In December, the Blu-ray »

PHOTOGRAPH: DRAGAN TRIFUNOVIC

Big-Name 3D HDTVs and Disc Players Coming Soon

THE FOLLOWING 3D products are headed to stores this year. Companies haven't set pricing, and some have yet to discuss plans for bundling glasses.

Due in Summer 2010

PANASONIC

Viera TC-P50VT20 and Viera TC-P50VT25 (50 inches)

Viera TC-P54VT25 (54 inches)

Viera TC-P58VT25 (58 inches)

Viera TC-P65VT25 (65 inches)

DMP-BDT350 Blu-ray player

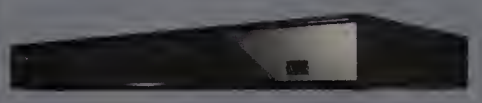
SONY

Bravia XBR-LX900 series (40, 46, 52, and 60 inches)

Bravia XBR-HX900 series (46 and 52 inches)

Bravia HX800 series (40, 46, and 55 inches)

BDP-S770 Blu-ray player



BDV-HZ970W home theater unit

PlayStation 3 (firmware upgrade)

Release Date Unannounced

LG

Infinia LE9500 (47 and 55 inches)

SAMSUNG

UN*xx*C9000, UN*xx*C800, UN*xx*C700, and PN*xx*C7000 (TV sizes not yet announced)

BD-C6900 Blu-ray player

TOSHIBA

ZX900 "Cell TV"

BDX3000 Blu-ray player

VIZIO

XVT Pro Series (47, 55, and 72 inches)

Disc Association finalized its spec for Blu-ray MVC, a 3D "multiview" codec extension to the existing AVC H.264. Though Blu-ray players seem to have dropped enough in price to start replacing DVD players by default, the arrival of 3D models could extend the disc format's relevance.

Hollywood studios have been a bit quiet about their 3D Blu-ray plans, but a few deals have been announced. Disney says it will have a 3D version of *A Christmas Carol* out by the fourth quarter of 2010. And DreamWorks and Samsung have announced a deal with Technicolor to replicate content in 3D.

Blu-ray Disc Association president Andy Parsons notes that not everything will get the 3D treatment. He says that he expects 2D to coexist with 3D. "We're positioning 3D not as a replacement for but a complement to 2D," he says.

While Parsons expects studios to search their archives for classics that they can transcode as 3D, the conversion may not be possible across the board. "It remains to be seen if a way can be found to convert 2D content into 3D in a way that comes close to what's being done in the theaters today."

More Than a Gimmick?

The 3D being introduced now is definitely not the same effect as what you get from wearing cardboard red-and-blue glasses. The future of 3D is impressive, and its arrival could change how we regard reproduced images.

At January's Consumer Electronics Show, I was impressed by Panasonic's plasma panels with active-shutter glasses, as well as by Sony's demonstration of 3D on a 24.5-inch OLED screen. Of the various 3D implementations I tried at CES, those two produced the most convincing image quality.

On Panasonic's 3D plasma technology, both live-action and animated video looked bright and solid (as opposed to exhibiting opaqueness and transparency, which the same video did on Sony's LCD-based 3D HDTV). I was particularly struck by a portion of video that was spectacular in its ordinariness (a conversation between characters outdoors). It stood out to me for its realism, for the sense of depth that enveloped the characters—not to mention the entire scene.

THIS FALL, PANASONIC will release a Full HD 3D camcorder. Priced at $21,000, it's definitely for professional moviemakers only.

If 3D does prove to be a hit with audiences, plasma TV technology looks poised to vault back into significance. After ceding market share to LCDs, which have tumbled in price and improved in quality in recent years, plasmas look to gain an edge in the 3D universe. Plasma panels can respond to fast motion more quickly than LCD panels can; and while that difference isn't particularly evident in 2D, it is a distinct advantage in 3D.

Sony's 3D OLED (Organic Light Emitting Diode) LCD offered perhaps the best example at CES of the increased depth perception that a 3D image can provide. OLED remains fairly rare in the mass market; though the technology is now common for cell-phone displays, TV-size panels have remained costly and out of reach for mass production. Since OLED has an even faster pixel refresh rate than plasma does, it isn't surprising that Sony's 3D display left such a positive impression. Though it required glasses, too, the Sony 3D OLED was astounding in its color, realism, detail, and depth. Sony has yet to discuss plans to bring its 3D TV to market, but the prospects are tantalizing. And if 3D takes off in a big way, perhaps it will be the technology that pushes OLED into the mainstream.

The Need for 3D

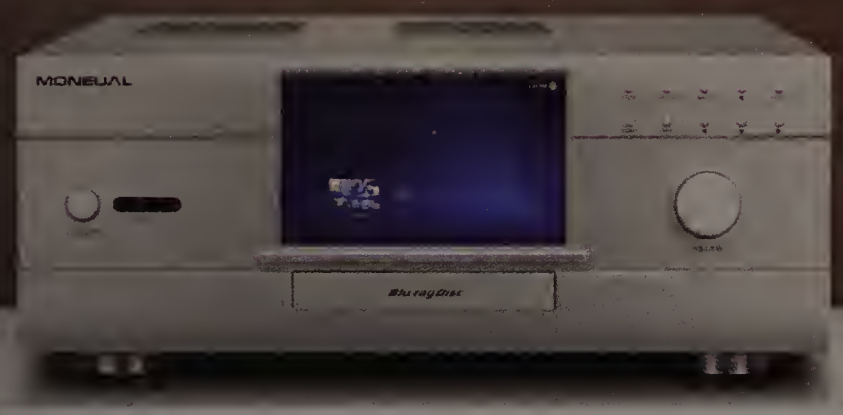
Many industry observers have wondered whether we need 3D for newscasts, sitcoms, and other ordinary stuff. I would counter that a few years ago lots of people thought they didn't need social networking. At some point, I suspect, 3D media will become as natural to us as 2D videos and stills are today. In the immediate future, it will be limited to big-ticket entertainment events. Over time, though, consumers will expect the same level of realism and depth in all of their images—and technology will catch up to deliver that depth, effectively and affordably.

Consider the example of last year's *U2 3D*. This is no MTV video—it's an elaborate production that shows Bono and his band in three-dimensional glory, and it's one of many movies that have made a compelling case for capturing concert performances in 3D. Now imagine that you're in a stadium, watching Bono, who seems to be miles away from your seat in the nosebleed section. You're resigned to viewing the overhead screen—but instead of showing you a flat projection, the 3D screen lets you experience the performance with dimensionality. It could happen: Sony has already demonstrated the ability to capture and produce 3D video in real time.

That 3D future isn't quite here yet. The technology has to get to a point where users don't need awkward eyewear keyed to a specific TV. But when that future does come, 3D will be the new normal, and everything else will seem like your grandmother's faded black-and-white photos in a shoebox in the attic.

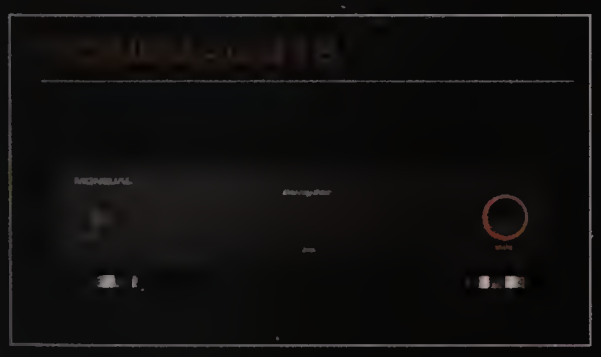
PREMIUM HTPC

Irreplaceable **Prestige**



Moneual recommends Windows 7

Experience the award-winning **Moneual 972i**, with its elegant, hand-crafted 100% aluminum chassis and 7inch touch screen LCD. Watch connected to your large-screen TV through HDMI, DVDs, Blu-ray Discs, cable TV, home videos, photos, and Internet videos can all be enjoyed in 1080p quality. Freely rerun, pause, and record cable TV, or add music and transitional effects for a photo slide show with a personal touch.



MONEUAL™

amazon.com MonShopper.com newegg

For more information or to purchase one of our award-winning products, call 1-877-450-0105 or visit www.moneual.com

Pricing and Availability: Prices, availability, and terms of any offer may change without notice or obligation. Taxes if applicable are not shown.
Moneual is not responsible for price, typographical, photographic or other errors and reserves the right to cancel any order resulting from such errors.
Microsoft and Windows are registered trademarks with Microsoft Corporation in the United States and/or other countries. © 2010 Moneual. All rights reserved.

Camera Trends Come Into Focus for 2010

NOW THAT camera makers have announced their early-2010 point-and-shoots, it's time to examine common themes. (For a deeper look at these trends and others, see find.pcworld.com/69377.)

Sharing and More

As in years past, a few new models will let you share photos wirelessly; Samsung's CL80, for example, supports Wi-Fi and Bluetooth. New sharing features aren't limited to Wi-Fi connectivity, however. The $350 Kodak Slice packs a 2GB internal flash drive and a huge, vivid 3.5-inch touchscreen that lets you tag images for upload to Facebook, Flickr, YouTube, or Kodak Galler

Sony's TransferJet techn ogy lets you transmit phot between compatible devic simply by holding them ne to one another. Two Sony Cyber-shot cameras will ha it; you'll also need a special TransferJet Memory Stick.

Pocket megazooms will do more. Casio's Exilim EX-H15, for one, has in-camera editing and green-screen-style effects. Olympus's Stylus-7040 offers a 7X optical zoom, 2GB of storage, and some creative modes such as filters that mimic a pencil sketch.

SAMSUNG'S CL80 can share photos wirelessly.

3D Cameras

If 3D TV (see page 12) becomes a big hit, everyone will want to shoot their own 3D videos and photos. Fujifilm's FinePix Real 3D W1 system, already available, costs $600 for the camera and $500 for a special display that shows video and photos in 3D; you don't need to wear glasses, as long as you view the display from certain angles. Samsung is reportedly working on a 3D still camera with a two-lens design similar to that of the Fujifilm model.

—Tim Moynihan

BETA WATCH

EDWARD N. ALBRO

MailBrowser: Xobni for Gmail

Many Outlook junkies swear by Xobni, a service that keeps track of information about their contacts. If you use Gmail and want the same kind of data, MailBrowser is a great, free option. MailBrowser's add-on works with Firefox and Internet Explorer on Windows PCs or Mac machines. Install it, and it indexes your Gmail messages. Afterward, when you open a Gmail message from a customer, for instance, the MailBrowser sidebar will show a list of your last few conversations with that person, how many messages you've traded, and all the attachments you've exchanged. MailBrowser will be even more useful when it pulls in information from Facebook and Twitter, something the company says it's working on. mailbrowser.com

Competitious: Keep an Eye on Your Rivals

To succeed in business, it's not enough to know what your own company is doing—you have to keep tabs on your competitors as well. Competitious is a free service that helps you and your coworkers collaborate on a profile of your rivals. You can build a chart comparing your offerings with theirs, collect news stories about their successes and failures, and track their Web traffic. (The last feature wasn't working properly when I tried it, but Competitious has promised an upgrade soon.) competitious.com

TweetyGotBack: Twitter Wallpaper

So you've been tweeting for a while now, and you're getting sick of the default blue-sky-and-clouds background on your home page. But you're too busy squeezing all your big thoughts into 140 characters to spend much time on a unique design. Enter TweetyGotBack, a free service that instantly installs new wallpaper on your Twitter home. Options include sports team logos, celebrity shots, nature scenes, and religious motifs. Choose your favorite design, and quicker than you can say "Knight Rider," you'll have, say, a vintage hunk of Hasselhoff on your page. Now that's something to tweet about. tweetygotback.com

WANT TO PAY tribute to The Hoff on your Twitter home page? No problem: TweetyGotBack will make it happen in seconds.

NEW
Enterprise Version
Available!

Synchronize Your Life!

GoodSync — Award Winning Backup and Synchronization Solution

Automatic backup and synchronization made easy...

Now you can automatically compare, synchronize, and back up your precious family photos, music, email, contacts, and other important files - between desktops, laptops, servers, and external drives, as well as through FTP, SFTP, DAV, and S3 servers.

GoodSync will:

- ✓ Automatically backup all your important files.
- ✓ Synchronize your data between multiple devices.
- ✓ Organize/transfer information between computers.
- ✓ Sync multiple file copies to prevent data loss.
- ✓ Help you achieve complete **peace of mind**!

GoodSync's powerful technology is years ahead of the pack. Excellent reviews by industry experts and customers alike solidify **GoodSync** as a leader in file backup and synchronization.

PC World Readers
Download GoodSync Today
It's FREE!

GoodSync
Get in Sync with GoodSync

www.GoodSync.com/PCW

Stream From PC to HDTV, Wire-Free

SOME GADGETS LET you view Website content on a TV (see page 60 for a review of one such box). What has been missing is a convenient way to enjoy *any* media from your PC on your big screen.

Intel's new Wireless Display laptop CPUs can compress the PC display and stream it

NETGEAR'S PUSH2TV promises to bring PC-based media to a TV.

to a Netgear set-top box, the Push2TV (PVT 1000), that you connect to your TV via HDMI or component cables.

If it works as advertised, you should be able to watch on your TV anything that you can view on your monitor or laptop. (IDG News has reported, however, that you're not really supposed to use the Push2TV to view protected material.)

Although the box employs 802.11n Wi-Fi, its streaming is designed to be less prone to interference than traditional Wi-Fi hookups; it uses new peer-to-peer technology made to simplify direct wireless connections between devices—no router involved.

Best Buy should be selling the Push2TV by the time you read this, for $100 by itself or bundled with laptops using the new Intel chips.

—Yardena Arar

GEEKTECH

3D Blu-ray: Do You Need to Upgrade Your Gear?

IN DECEMBER THE Blu-ray Disc Association announced that the codec for creating full 1080p 3D Blu-ray content was set. (For a complete analysis of the 3D trend, see "3D Comes Home" on page 12.) Does this news mean that you'll need to upgrade your gear immediately to experience the benefits? Not necessarily.

> The arrival of 3D Blu-ray doesn't necessarily mean investing in all-new equipment right now.

The 3D specification for Blu-ray will use Multiview Video Coding, a variant of the H.264 HD codec, for the enhanced visuals. MVC will present separate 1080p pictures to each eye, yet it will take up only 50 percent more space on a disc. Though you will still need to use polarized 3D glasses to see the effect, the experience should be close to that of a theatrical 3D movie release (minus the popcorn in your hair).

If you're ready to demolish your living-room home theater in shame over its sudden obsolescence, I suggest putting down the sledgehammer. You may be surprised to know that not all of your gear needs upgrading right now. First, the 3D discs will be able to display in 2D, meaning that you won't have to choose between a 2D or 3D version of a movie. Your current HDTV and Blu-ray player will be able to handle the new discs just fine, and you'll still have room to upgrade in the future.

Second, the Sony PlayStation 3 is expected to be able to play full 3D content, pending future software upgrades. The PS3 has a great deal of horsepower that gives it an extra boost for processing the two 1080p signals that the spec requires. If you use a PS3 as your Blu-ray player, you'll be set. Other Blu-ray players may be able to display 3D with a firmware update, but no such announcements have yet been made.

Finally, as for your current HDTV...well, it will probably have to go. Unless you future-proofed your purchase and bought an expensive stereoscopic set (such as the models listed at find.pcworld.com/69395), your existing TV will not have the display properties necessary for the 3D Blu-ray spec. However, when you do choose to upgrade your TV, you will be able to pick any display type you want (LCD, plasma, OLED), since the 3D video encoding is not tied to any particular display technology. And according to the Blu-ray Disc Association, it won't matter which 3D technology the TV uses, either.

Laser Phosphor Displays

While we're on the topic of HDTVs, Prysm, a small display company, announced in December a new technology called laser phosphor displays. LPD technology is powered by a combination of laser diodes (similar to the ones in DVD and CD drives), mirrors, and a phosphor screen. The diodes send a laser signal to the mirrors, and from there the signal projects onto the screen, exciting the necessary RGB imaging sequence.

Prysm claims that LPD screens will use up to 75 percent less energy than conventional displays. This impressive ratio is possible because the lasers light up only what is necessary. The technology is very similar to the local dimming capabilities of current LED-backlit LCDs. This capability allows the LPD screen to produce deep contrast ratios (dark, inky blacks) while maintaining low power consumption.

Additionally, Prysm claims LPDs will have a nearly 180-degree viewing angle, a 240Hz refresh rate, and 3D/multiview capabilities.

Prysm says that initially LPDs will be geared toward commercial use (signage, stadium scoreboards), but that it's working on bringing the technology to HDTVs. However, the company hasn't yet disclosed which HDTV vendors it is working with. For a detailed look at how the LPD approach compares to currently available HDTV technology, see find.pcworld.com/69396.

—David Ayala

Visit the GeekTech blog at go.pcworld.com/geektech for more hacks, tweaks, and tips.

ILLUSTRATION: HARRY CAMPBELL

Networks People Trust™

www.trendnet.com

Performance²

Win a Wireless N Gaming Adapter
at www.trendnet.com/giveaway
Use promotional code MP09W008 to double your prizes

300Mbps Concurrent Dual Band Wireless N Router
TEW-671BR

Dual Band Speed

Experience unmatched wireless performance from two separate 300Mbps wireless bands at the same time!

Network Management

Stream HD videos on the uncrowded 5GHz band while surfing the Internet on the 2.4GHz band.

Advanced Security

Create virtual networks to give friends access to the Internet only, to block visibility of the 2.4GHz or 5GHz bands and to block access to hardwired computers.

Visit trendnet.com or call 1-888-326-6061

No purchase necessary to win. Void where prohibited by law. Sweepstakes is open to legal residents of the United States who are at least 18 years of age. One entry per person. For a complete set of rules, visit www.trendnet.com/giveaway.

amazon.com Buy.com J&R MICRO CENTER newegg TigerDirect.com

TRENDnet®

©2010 TRENDnet All rights reserved

What Are the Must-Have Gadgets for 2010?

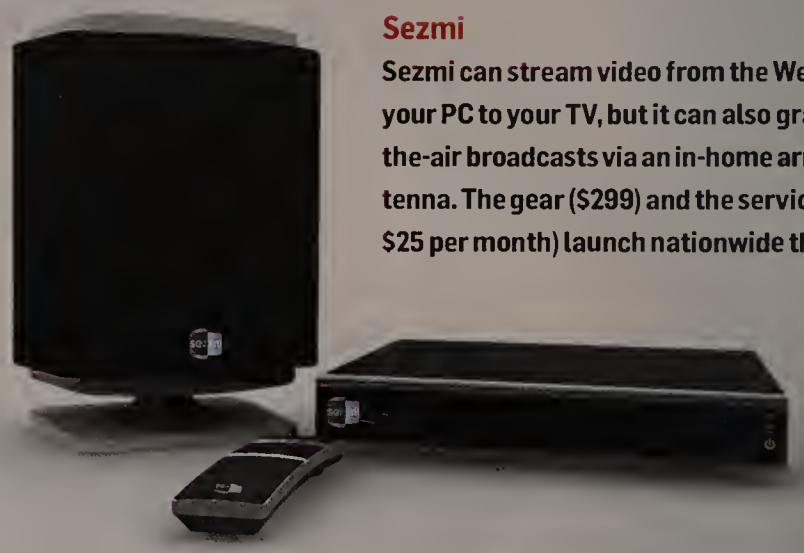
Last year consumers bought iPhones and Flip camcorders by the millions. What will this year's hot gizmos be? A new iPhone, if one came out, would be a sure hit. Here is our take on that possibility, and our look at a few new and announced products that we think will be big.

Lenovo IdeaPad U1

The 3.8-pound IdeaPad U1 runs Windows 7 and offers a 128GB solid-state drive. If you detach the 11.6-inch screen, you get a Linux-based multitouch tablet. Many people will choose between a laptop and a tablet this year; the convertible U1, coming this spring for around $1000, might make their decision easy.

Apple iPhone 4G?

Rumors abound that the next iPhone—the "iPhone 4G," as it's being called—could appear as early as this spring. Speculative designs like this one by Isamu Sanada are showing up on the Internet as the pressure mounts for Apple to upgrade its hugely popular phone to better compete with new Android smartphones.



Sezmi

Sezmi can stream video from the Web and your PC to your TV, but it can also grab over-the-air broadcasts via an in-home array antenna. The gear ($299) and the service ($5 to $25 per month) launch nationwide this year.

Alienware M11x

Far smaller than previous gaming laptops, the 11.6-inch M11x sports a 1336-by-768-pixel high-def screen, and can play current games at a stunning 30 frames per second. The M11x ships this spring for less than $1000.

HTC Nexus One

Though the Nexus One ($179 with contract) is no more a "Google phone" than the HTC G1 is, it's the best Android phone available today. And Google has done such a good job associating itself with the Nexus One in the minds of consumers and the media that the handset is bound to sell like hotcakes. (See our review on page 52.)

Microsoft 'Project Natal' for Xbox 360

Later this year, Microsoft will one-up Nintendo's Wii with its own 3D-motion-sensing controller. Players can use full-body gestures, like kicks or punches, to interact with the action on screen.

IPHONE 4 ILLUSTRATION ISAMU SANADA

New.

Quieter than ever before.

Introducing Bose® QuietComfort® 15 Acoustic Noise Cancelling® headphones.

Our best headphones. Since we introduced the world's first noise cancelling headphones over 20 years ago, we have conducted continuous research to improve this technology. Now, we have engineered significant advances in noise reduction to make the QC®15 headphones our quietest ever. Exclusive Bose technologies electronically sense more of the sounds around you, reducing more noise across a wider range of frequencies. And we didn't stop there. We developed a new ear cushion that further reduces unwanted noise. It works in harmony with the electronics to deliver a better listening experience and a comfortable fit.

Try them for yourself risk free. When you fly, the engine roar fades even further away. When you listen to music at home or at work, fewer distractions get in the way. Less noise, along with our acclaimed lifelike sound, a fit that stays comfortable for hours and the quality you expect from Bose. It all adds up to a combination of benefits unmatched in the industry. So now you can relax and appreciate music, movies or just some serenity more than ever before. We invite you to try QC15 headphones for yourself risk free for 30 days. And when you call, ask about making **12 easy payments,** with no interest charges from Bose.* We're so sure you'll be delighted, we'll even pay to ship them to your door.

Welcome to an even quieter world.

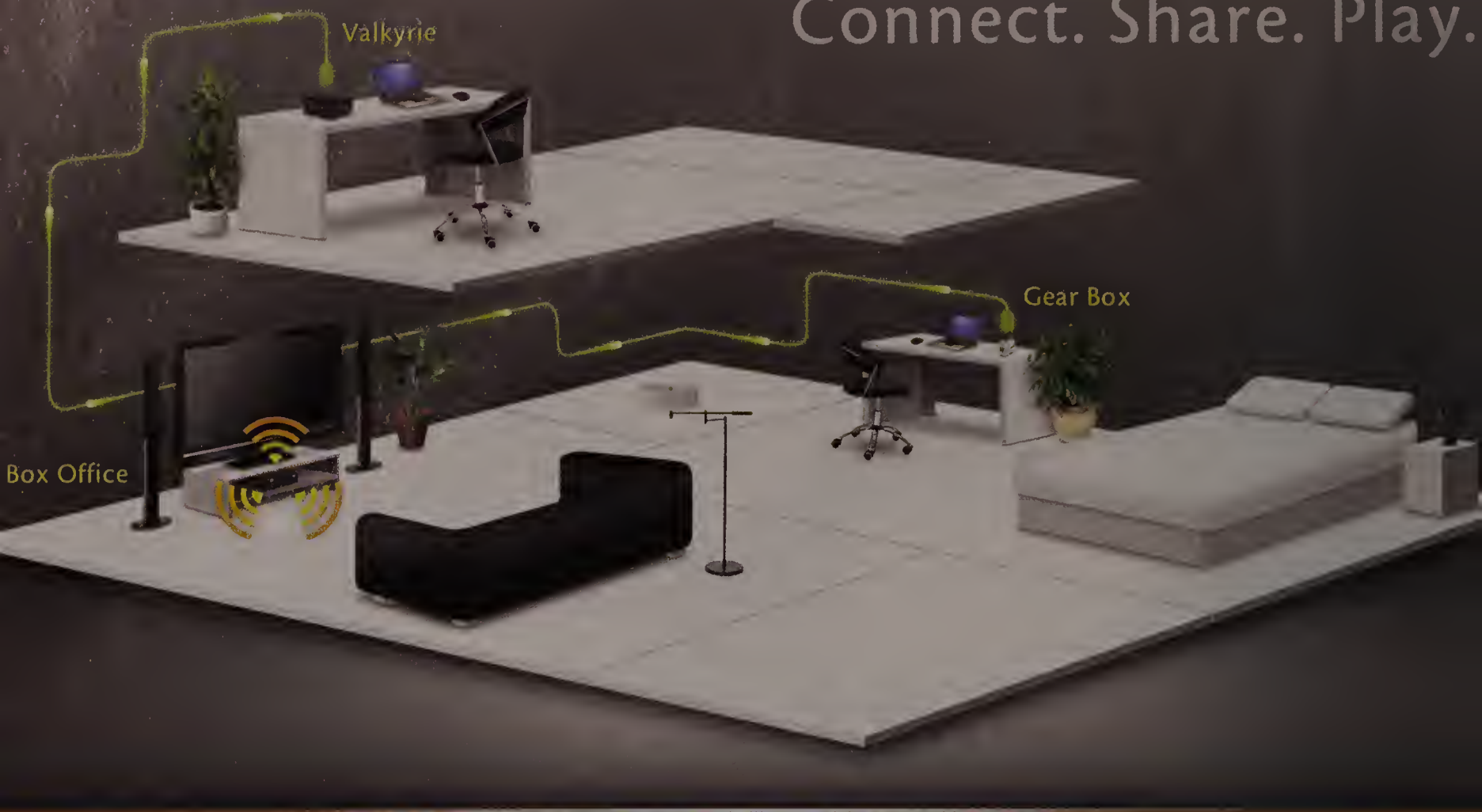
To order or learn more:
1-800-729-2073, ext. Q7719 or visit Bose.com/QC

BOSE®
Better sound through research®

*Bose payment plan available on orders of $299-$1500 paid by major credit card. Separate financing offers may be available for select products. See website for details. Down payment is 1/12 the product price plus applicable tax and shipping charges, charged when your order is shipped. Then, your credit card will be billed for 11 equal monthly installments beginning approximately one month from the date your order is shipped, with 0% APR and no interest charges from Bose. Credit card rules and interest may apply. U.S. residents only. Limit one active financing program per customer. ©2010 Bose Corporation. Patent rights issued and/or pending. The distinctive design of the headphone oval ring is a trademark of Bose Corporation. Financing and free shipping offers not to be combined with other offers or applied to previous purchases, and subject to change without notice. Risk free refers to 30-day trial only and does not include return shipping. Delivery is subject to product availability. C-007915

PATRIOT

Connect. Share. Play.



Valkyrie | Box Office | Gear Box

When it comes to digital living, Patriot has the solutions for you. From our Box Office all-in-one digital media player to our Valkyrie & Gear Box NAS solutions, sharing digital content like movies, music and photos is a snap.

newegg.com · Fry's Electronics · mEmory Express · Buy.com · NCIX.com · Tiger City · amazon.com · Canada Computers · TigerDirect.com · COMPUSA.com · MICRO CENTER computers & electronics

www.patriotmemory.com

E-Book Piracy: Is Your Download Legitimate?

BY TOM SPRING

AS THE POPULARITY of e-readers such as the Amazon Kindle continues to rise, so does the publishing industry's worst nightmare: e-book piracy. Formerly limited to the efforts of a determined few willing to ferret out mostly nerdy textbook titles from the Internet's dark alleys and read them on a PC, the problem is ballooning as e-readers gain popularity and the appetite for mainstream e-books grows, publishers say.

"We are now seeing large volumes of e-books being pirated on everything from file-sharing networks to Websites," says Ed McCoyd of the Association of American Publishers, a trade organization representing major U.S. book publishers. The year-to-year increase in illicitly available e-book titles is unknown, McCoyd says. Other publishers, such as Hachette Book Group, say that e-book piracy has grown "exponentially" over the past year.

A check of e-books available for illicit download confirms that technical titles no longer dominate e-book piracy. The list includes such best-selling authors as Janet Evanovich, John Grisham, and James Patterson. *PCWorld* found that one-third of *Publishers Weekly*'s top 15 best-selling fiction books of 2009 could be had through a growing array of peer-to-peer networks, book-swapping sites, and file-sharing services.

The availability of best sellers is just the start. *PCWorld* discovered virtual bookshelves stuffed with pirated e-book titles ranging from copyrighted popular fiction and nonfiction to college textbooks and how-to e-books. All are downloadable and ready to view on the user's e-reader of choice, be it the Amazon Kindle, the Sony Reader, or Barnes & Noble's Nook.

"We know e-book piracy is a problem, and we are taking the issue very seriously," says Paul Aiken, executive director of The Authors Guild, an advocacy group for writers. "We've seen the music and film industry deal with this, and it stands to reason we will grapple with it too." Aiken says that though he is concerned about the growing availability of e-book titles on the Internet, he is not convinced that the number of people who are actually downloading those digital files is increasing as rapidly.

> Along with the rise of e-book readers like the Kindle, the Sony Reader, and the Nook comes the scourge of the digital world: pirates.

ILLUSTRATION: CHRISTOPH NIEMANN

Compared with music piracy, illicit e-books are not nearly as widespread or as easy to acquire. Pirates must be determined to track down specific e-book titles. Further, some pirated e-book files (usually available as PDFs) are poorly reproduced, and some consist of scanned page images—rather than of actual text.

Between a Digital Rock and a Hard Place

Concerns about piracy have prevented many publishers and authors, most notably J.K. Rowling, author of the Harry Potter book series, from embracing the e-book format—surely a loss for readers. The fear is that e-book files protected by digital rights management (DRM) technology could be hacked anyway. However, refusing to take advantage of the e-book format can sometimes backfire and itself drive piracy, according to consumer technology analyst Rob Enderle of the Enderle Group. »

PCWORLD.COM

DRM restrictions on at least one e-reader may have been hacked: See find.pcworld.com/64323. Is DRM—at least for music—truly on its deathbed? Read an in-depth analysis at find.pcworld.com/64324.

For a relatively small sum of money, pirates can convert any hard-copy book into an unprotected text file, even if a legitimate electronic book is never created, Enderle says. "This fear of electronic piracy is actually fueling the piracy movement," he concludes.

That's what happened with Rowling's works. Rowling's publisher, Scholastic Books, doesn't currently offer any Harry Potter titles in e-book format; but hackers have scanned all of the books and turned them into PDF files that are viewable on any e-reader.

"If electronic books can't be had legitimately, others will step in and fill the need; and once a pirate industry is established, it probably won't go away easily," says Enderle. He thinks that publishers should follow the music industry's lead and make more e-book titles available.

Publishers are producing more digital editions for their books, and revenues from these editions are rising rapidly. Wholesale trade in e-books in the United States for the first three quarters of 2009 ($110 million) was up threefold compared with 2008, according to the International Digital Publishing Forum.

DRM Is No E-Book Piracy Fix

While publishing e-books protected by DRM may seem like an obvious solution to piracy, the idea has faced criticism from within the publishing industry and from consumers. First, publishers are weary of reports that the DRM technology used in the Kindle and the Sony Reader has been hacked, says Nick Bogaty, an expert in DRM technology for Adobe. Second, consumers are hesitant to purchase digital books with an inflexible DRM that ties an e-book to a limited number of e-readers.

Critics say that the two providers of DRM-protected e-books, Amazon and Adobe, are stunting the e-book industry's progress. For instance, Amazon's Kindle uses its own DRM-restricted AZW e-book format. People who buy an e-book on their Kindle cannot transfer it to a competing e-book reader from another company for reading. »

SKEPTICAL SHOPPER GINNY MIES

The Risks of Social Networking Games

They may seem benign, but such games leave players vulnerable to unwanted recurring charges and security threats.

IF YOU HAVE a Facebook account, you're probably familiar with Zynga games like Farmville and Mafia Wars. Your live feed may be clogged with updates from friends participating in the games, or you may try to make the workday go faster by playing them yourself. They seem harmless enough—but TechCrunch.com has unearthed a video of Zynga CEO Mark Pincus saying the company "did every horrible thing in the book" to make money off of players. What "horrible" things are players susceptible to?

In the video, Pincus says the company offered players extra chips in an online poker game if they installed a toolbar that was impossible to remove—a revenue-generating tactic that is not uncommon in this gaming world. Zynga is hardly the only offender.

Progress in these games depends on how much you have in your virtual bank. You can earn some money based on your activity within the game (to accumulate significant amounts of currency, players can either purchase game currency with a credit card or sign up for an account with a third-party service); but in my brief experience with Farmville, in-game earnings couldn't keep things interesting.

Watch Out for Surveys

You might, for example, earn some quick Farmville cash by answering a brief survey. Sounds a lot better than using your credit card, right? But you're probably safer breaking out your wallet.

TechCrunch cites one instance in which players could win currency by filling out a survey; then they would be asked to provide their phone number so they could receive a PIN via text to get the results. But once they entered that PIN into the site, they were subscribed to a horoscope service for $9.99 per month—something they wouldn't know unless they diligently read all of the fine print. Ouch. Even survey takers who immediately canceled the subscription might still get charged.

Security—and Social—Risks

Unwanted charges aren't the only risk that players are exposed to: Social networking games make them a target for viruses and hackers as well. Zynga's community forums have a couple of threads in which moderators warn users against accepting any gifts or invitations within a certain game on Facebook. (They didn't specify exactly what would happen if users accepted these buggy gifts or requests.) I also found a few threads where users claimed that a bug in the game wiped out all of their game progress. That can be pretty devastating for someone who has devoted lots of time and money to it.

If you can't break your Farmville habit or can't resist the urge to try out these games, at least stick with earning that virtual money without taking out your credit card or signing up for services.

Many users I polled said that their only income in these games comes from recruiting friends to play or from posting updates to all their friends about their progress. You might lose a few real-life friends by such spamming, but at least you won't put yourself at risk of subscriptions you don't want. To keep your friendships intact, I recommend that you create a separate Facebook account strictly for gaming and friending other players.

ILLUSTRATION: HARRY CAMPBELL

The best days start when everything comes together.

Take your coffee with a **FREE** coffeemaker, carafe and mug to enjoy it—only for a limited time.

In one limited-time offer, get all you need for a better morning. Just pick two delicious Gevalia® coffees for $14.95 and you'll receive our exclusive 12-cup programmable coffeemaker, a stainless steel thermal carafe and travel mug—all FREE and yours to keep after your third delivery of Gevalia.

$160 VALUE—YOURS FREE

Home is where it happens | GEVALIA proudly poured since 1853

LOVE IT OR IT'S FREE.
Not 100% happy with a coffee or tea? Tell us within 45 days for a replacement or refund (excluding shipping & handling). Simple.

MORE BEANS. MORE LEAVES.
Over 50 coffees & teas. From everyday favorites to the truly exotic. There's a perfect cup for everyone.

WE'RE FLEXIBLE LIKE THAT.
You can change the coffee you want, when you want it, and the amount, anytime you want at GEVALIA.COM or call 1.800.GEVALIA.

Offer valid for new members only, limited to one per household, subject to change and expires one year from publication. Open to residents of the U.S., the U.S. Virgin Islands and Puerto Rico. We reserve the right to substitute items of equal or greater value. Please allow one to two weeks for delivery of your shipment. All orders are subject to approval. Coffee prices vary from $5.95 to $8.35 a box (plus shipping & handling) and are subject to change. GEVALIA is a registered trademark.

[✓] **I'm joining Gevalia!** Start me with two half-pound boxes of coffee for $14.95, which includes delivery charges. I'll also get a FREE coffeemaker, carafe and mug. As a Gevalia Member, I'm in control. I can choose my coffees and how often they're sent at GEVALIA.COM or by calling 1.800.GEVALIA. Or, I can go with Gevalia's most popular delivery schedule—four half-pound boxes about every six weeks sent automatically. As a bonus, a special holiday coffee may be reserved for me (but give me details in advance so I know if I want it). After my first three deliveries, I can cancel anytime without obligation and keep the entire collection.

Name _____

Address _____

City _____ State _____ Zip _____

Phone _____

Email _____

◯ Please mark here if you do not wish to receive communications from Gevalia via email.

◯ MasterCard ◯ Visa ◯ American Express ◯ Discover

Card Number: _____

Expiration Date: Month ____ Year ____

CODE: 124139

Signature Required: _____

◯ Enclosed is my check payable to Gevalia for $14.95.

CHOOSE TWO TO START:

KL	◯ Signature Blend
KN	◯ Breakfast Blend
KP	◯ French Roast*
C	◯ Traditional Roast®
F	◯ Colombia
A	◯ Light Roast
Q	◯ Hazelnut**
O	◯ French Vanilla**
L	◯ Mocha**
P	◯ Irish Creme**

*Whole bean (Regular and Decaf) available in 7-oz. packages only. **No whole bean.

CHOOSE ONE:
◯ Regular (R)
◯ Decaf (D)

CHOOSE ONE:
◯ Whole bean (1)
◯ Ground (2)

COFFEEMAKER ACCENT COLOR:
◯ Black (BL) ◯ White (WH)

Complete and mail to:
GEVALIA KAFFE, P.O. Box 6266, Dover, DE 19905-6266.

Don't miss this FREE offer. Visit **GEVALIA.COM/set** or call 1.800.GEVALIA.

ON YOUR SIDE

MARLA MIYASHIRO

I USED FILEDEN'S file-hosting and online-storage service (fileden.com) for about a year. Then that I realized I could save money by using my own Website to host files. So I transferred my files to the new site and changed my links. However, I forgot to cancel the FileDen service. After PayPal notified me that my annual $49.95 subscription had been renewed, I canceled it, but three weeks later I still haven't received a refund. I can't find a telephone number or an e-mail address on FileDen's site. I've sent several messages through their "Contact Us" page and written to the addresses I found within PayPal, but haven't received any response. Can you help? *Joan Fischer, Reinholds, Pennsylvania*

OYS responds: Fischer filed a claim with PayPal, but the online payment service denied it, stating that "PayPal's Buyer Complaint Policy applies to the shipment of goods but not to disputes about merchandise quality." After we contacted FileDen about Fischer's problem, the company's CEO told us that when customers cancel their subscriptions, FileDen doesn't offer a refund for the remaining time unless the customer complains of a valid service problem (excessive downtime, for example) or requests a refund within 30 days of signing up. But as a goodwill gesture, he refunded Fischer's subscription fee.

It's easy to forget about subscriptions that renew automatically. We recommend keeping track of renewal dates. A month before each date, consider whether to continue the subscription or to cancel it. If you decide to cancel, you'll have ample time to notify the company. If you don't get a response, be persistent. You may need to say—politely but firmly—that you will involve a third party such as the Better Business Bureau if the company doesn't reply in a timely manner, and that you will dispute the charge if your subscription is renewed despite your request to cancel.

Missing Modular Cables

Daniel M. Golding of East Greenwich, Rhode Island, contacted us when he couldn't get some cables back. A Cooler Master power supply that he had bought online broke after about six weeks, so he returned it. Cooler Master sent him a refurbished unit, which he says works fine, but the company failed to return most of the modular cables that it had asked him to send in with the dead unit. Golding contacted Cooler Master several times and was told, twice by chat and twice by phone, that the cables would be returned—but they weren't.

After we contacted Cooler Master, a representative had the cables shipped to Golding right away. She wanted to know the names of the reps he had spoken to before, but he didn't have that information.

We recommend that you write down the names of any company representatives you speak to, live-chat with, or receive e-mail messages from. Also, ask those reps if they have a direct line. If you need to contact the company again, try to follow up with the same person; if that's impossible, at least you can identify who gave you the instructions or promises.

Do yau have a problem with a hardware ar saftware vendar invalving customer service, a warranty, a rebate, ar the like? E-mail onyourside@pcworld.com. *We can't address every issue, but we will try ta handle those af greatest interest.*

DRM issues get thornier when device makers, such as Amazon, start negotiating exclusive e-publishing rights for their product. Amazon signed a deal with best-selling business writer Stephen R. Covey to publish several of his books, including *The 7 Habits of Highly Effective People* and *Principle-Centered Leadership,* exclusively for the Kindle. The company has also negotiated exclusive rights for Kindle e-books from author Stephen King and for a biography of First Lady Michelle Obama.

A More-Flexible DRM?

The idea of exclusive e-book rights tied to devices might seem as annoying as being allowed to play a new CD only on a certain brand of CD players. But Ian Fried, vice president of Amazon Kindle, has stated that Kindle consumers don't mind its DRM. That could change, however, as a predicted flood of rival e-readers hits the market in 2010 and Kindle owners consider jumping ship—only to discover that they can't take their e-books with them. Remember the backlash against DRM-protected content in Apple's iTunes store?

Adobe's Bogaty notes that his company, whose DRM technology is used by Sony and Barnes & Noble, is yielding to critics who say that its antipiracy technology is too restrictive. Adobe is loosening the grip of its DRM, allowing users to share e-books with friends and to read books on up to 12 different devices (6 desktop and 6 handheld).

Author Marcia Layton Turner says she is less concerned about piracy and more interested in making her books available via the e-book format. Turner says that the potential of new e-book revenue is reason enough to jump on the e-book bandwagon, despite the risk of piracy. "I'd rather sell twice as many books and lose a few sales due to stealing than to miss out on those additional sales altogether," Turner says.

And many other authors agree: The problem of piracy takes a backseat to the challenge of getting people to read books in the first place. ●

ILLUSTRATION: HARRY CAMPBELL

Easy to configure. Always adjustable.

NEW!

FLEXIBLE SERVER

1&1® DYNAMIC CLOUD SERVER

A virtual server environment with full root access – adjust the processor core, RAM, and/or hard disk space at any time. Prices will be reflected accordingly.

Basic Configuration:

- 1 AMD Opteron™ 2352 Core Processor (up to 4 cores available)
- 1 GB RAM (up to 15 GB RAM available)
- 100 GB Hard Disk Space (up to 800 GB available)

All Configurations Include:

- 2000 GB Traffic
- Full Root Access
- Windows Server 2008 R2 Standard

Available as an add-on, additional fees apply.

- Parallels Plesk Panel 9
- 24/7 Toll-Free Support

Special Offer: 3 Months FREE!*

Basic Configuration: ~~$49.99~~ per month

More special offers are available online.
For details, visit www.1and1.com

EPA GREEN POWER PARTNER

*Offer valid for a limited time only. 3 months free offer applies to basic configuration only. 12 month minimum contract term and set up fee apply. Visit website for full promotional offer details. Program and pricing specifications and availability subject to change without notice. 1&1 and the 1&1 logo are trademarks of 1&1 Internet AG, all other trademarks are the property of their respective owners. © 2010 1&1 Internet, Inc. All rights reserved.

MEMBER OF united internet

Call 1-877-GO-1AND1

Visit us now www.1and1.com

1&1®

Let's get you up to date and up to speed.

Out with the old desktop and in with the new. We can go XP or Windows® 7. PC or Mac. Loaded up or stripped down. No matter what, you'll be able to have the latest, fastest desktop from the best names in the biz. And is there any place better to get it custom configured than CDW? Let's get the right desktops. Fully customized and ready to go.

Let's get going.

HP COMPAQ BUSINESS DESKTOP 6000 PRO

$629.99
CDW 1870918

Monitor sold separately
HP SMART BUY[1]

HP COMPAQ BUSINESS DESKTOP 6000 PRO

$809.99
CDW 1870919

Monitor sold separately
HP SMART BUY[1]

HP COMPAQ BUSINESS DESKTOP 7000

$949.99
CDW 1870917

HP SMART BUY[1]

Talk to one of our account managers today about all your desktop options.
CDW.com | 800.399.4CDW

CDW®
The Right Technology. Right Away.®

[1]HP Smart Buy savings reflected in advertised price; HP Smart Buy savings is based on a comparison of the HP Smart Buy price versus the standard list price of an identical product; savings may vary based on channel and/or direct standard pricing; call your CDW account manager for details. Offer subject to CDW's standard terms and conditions of sale, available at CDW.com. ©2010 CDW Corporation

How to Help Search Engines Find Your Site

BY JAMES A. MARTIN

ACCORDING TO AN oft-quoted 2006 study by Web-usability expert Jakob Nielsen, 93 percent of Web users don't look beyond the first page of search results. "Even though the specific percentages are a few years old," Nielsen wrote recently in an e-mail, "the general conclusion definitely still holds."

With odds like that, it's no wonder every business wants its site in the top ten results for relevant queries. Using legitimate, "white-hat" search engine optimization (SEO) techniques, a small business can greatly improve its chances.

Optimize your company's Website to improve its search ranking and get more business.

1. Determine Priorities

First, develop measurable goals and priorities, and plan to revise them periodically. Which products or services are most important to promote? What do you want your site visitors to do, buy, or learn?

Next, decide how to measure success. Google Analytics (find.pcworld.com/64273), for example, reveals which keywords visitors used, and much more.

2. Research Keywords

Often, a business doesn't describe its products or services the same way its clients do. A research tool can help you choose the best terms for SEO. With the free Google AdWords Keyword Tool (find.pcworld.com/64274), you can gauge how often keywords are searched, and how competitive a term is. The tool was designed to help marketers choose keywords for Google pay-per-click ads; but it's useful for general, organic keyword research, as well.

Some site managers employ the Keyword Effectiveness Index (KEI), which assigns a score based on the number of times a keyword has been searched and the number of Web pages containing it (see find.pcworld.com/64275 for details). Many paid tools offer KEI and other analytics that the Google tool lacks.

3. Use Keywords Judiciously

Overusing or abusing keywords can cause search engines to ignore you. Here are some tips for applying them effectively.

- Optimize each page for a particular keyword (and its synonyms). When the entire context of a page is on a single subject, search engines are more likely to see that page as relevant to its topic.
- Use keywords in the page's HTML title tag. Don't exceed 65 characters, including spaces and punctuation.
- Add keywords to the page's HTML h1 and h2 headings, and use the keywords several times in the body copy—the earlier, the better.
- Create a keyword-rich link elsewhere on your site to each optimized page. For example, for a page about résumé writing services, add a link to it from another page and use the term *résumé writing services* (not *click here*) in the link text.
- Add keywords to your site's URLs whenever possible, as opposed to using generic, meaningless URLs such as *www.domain.com/?page_id=58*.

4. Create 'Linkbait'

Editorial endorsements of your product or service from someone else, such as a high-profile blogger, can be SEO gold—especially when they include a keyword-rich link to »

ILLUSTRATION: EMILIANO PONZI

PCWORLD.COM

For even more advice, see our SEO guide at find.pcworld.com/62307. And if you want to delve into a little under-the-hood tweaking, learn about several SEO tricks for your blog at find.pcworld.com/64281.

a relevant page on your company's site.

- Make sure your pages have provocative, newsworthy, or extremely useful content—otherwise known as "linkbait." Spread the word about a new blog post, page, or article via social networks. (Search engines love blogs. If you aren't blogging, you should be.)
- Write an informative press release about your product or service. Include a keyword-rich link to a relevant page on your site, and post the release on public-relations sites. Contact influential reporters and bloggers directly, too.
- When other sites agree to link to yours, suggest the keyword that you'd like them to use in the link text.

5. Make Your Website Search Engine Friendly

Search engine "bots" primarily index text and follow links. If your site has lots of Flash, Ajax, and other nontext material, you're making things difficult for the bots. You can still do a few things to improve your site's "findability," though. Google's Webmaster guidelines (find.pcworld.com/64276) offer suggestions, including the following tips.

- Use a text browser, such as Lynx, to get a sense of how most search engine bots see your site. Or try pasting a URL into the Lynx viewer (find.pcworld.com/64277) to find out how the page would look when viewed with Lynx.
- Make sure that your site doesn't have duplicate content or multiple URLs pointing to the same page.
- Create an XML sitemap and submit it to the search engines so that their bots have a list of the URLs on your site that you want them to index.

Keep Going

It's important to set aside time, ideally every week, to review your Google Analytics, fine-tune your keywords, and look for link opportunities. But the rewards of SEO can be considerable—and it's a safe bet that your competitors are doing the same things. (For a few more tips, see the online version of this article at find.pcworld.com/64289.)

NET WORK MICHAEL SCALISI

WSUS 3.0 SP2: Easy Patch Management

The Windows Server Update Service simplifies patching across a network.

MICROSOFT HAS released Windows Server Update Service 3.0 SP2 as a means to centrally download updates and control how they deploy to the computers on your network. WSUS also offers reporting features to give you a snapshot of computers' status. If your network is big enough to have a server and use Active Directory, it can benefit from using WSUS.

The prerequisites are a server running Windows Server 2003 SP1 or greater, IIS 6.0 or greater, .Net 2.0 framework, and Report Viewer 2008 Redistributable 2008. If you run SQL server 2005 SP2 or greater, you can use that; otherwise the Windows Internal Database will install automatically. Consult the WSUS 3.0 SP2 release notes (find.pcworld.com/64282) for detailed requirements.

Installation and Configuration

Download the appropriate version (32-bit or 64-bit) of WSUS and run the setup. If you're upgrading from an unsupported database, WSUS 3.0 SP2 will migrate it to the Windows Internal Database. During installation, you'll need to specify an uncompressed NTFS partition with at least 6GB free. After installing the software on a server, you can run the installation on your desktop PC for remote management.

WSUS then launches a configuration wizard, allowing you to specify what languages you use, what products you want updates for, and what types of updates are synchronized. By default, only critical updates, definitions, and security updates are selected. I recommend choosing *All Classifications*, since updates don't deploy unless you approve them anyway.

Next, you should configure your clients to use the WSUS server via Group Policy (find.pcworld.com/64283). Using the Group Policy Management Console, create a new policy and link it to the appropriate Organizational Unit. Right-click on the policy, select *edit*, browse to *Computer Configuration•Policies•Administrative Templates•Windows Components•Windows Update*, and modify the following items.

Configure Automatic Updates: Click *Enable* and then choose the option most appropriate for your organization.

Specify intranet Microsoft update service location: Click *Enable* and type the URL for your server (for example, **http://yourWSUSserver**) in the two fields that appear.

No auto-restart with logged on users for scheduled automatic updates: Enabling this is optional, but recommended. Users get irate when their PCs restart without their consent.

Enable client-side targeting: Another option. You can use the WSUS client for grouping computers (see below), but you can also specify them here.

Creating Groups, Setting Up Auto-Approval Rules

Groups are useful when you want different computers (such as office PCs versus servers) to have updates applied differently. Open the WSUS management tool. Expand *Computers*, right-click *Unossigned Computers*, and pick *Add Computer Group*. You can then add systems by right-clicking them in Unassigned Computers, selecting *Change Membership*, and putting a check next to your desired group (or groups).

You can approve updates automatically, too. In the management tool, pick *Options•Automatic Appravals*. The Default Automatic Approval Rule approves all critical and security updates for all computers. It's a great default, and it may be all you need.

ILLUSTRATION HARRY CAMPBELL

ONE SIZE FITS NONE.

In today's business environment, no one wants to pay for something they don't use. That's why Qwest offers voice and data network solutions tailored to fit your unique needs. And by combining big business resources with small business resourcefulness, we're able to implement solutions designed to help your business boost efficiency and productivity. **Learn more at qwestsolutions.com.**

Get Qwest. Get Nimble.™

Qwest BUSINESS

Copyright © 2010 Qwest. All Rights Reserved.

TECH AUDIT

Integrated IT Overhaul Keeps Growing Company on the Move

NORTH AMERICAN MATERIAL Trading Company, a metal trading and processing firm headquartered in Cleveland, recently acquired two manufacturing plants and opened an office in Tampa, Florida. Each location used a disconnected jumble of outdated equipment. The company suddenly had three stand-alone phone systems that barely worked and racked up unusually high bills. No central server existed, and the plants were using an unreliable hosted e-mail service. And none of the four locations had adequate network security.

> A unified security and communications upgrade brings a fragmented company together.

Strategic Approach

NAMTC called on Voyant Technology to address these issues. After we performed a comprehensive technology audit in each location, we suggested a seamless, threefold solution: Establish systems to share data securely and enable better voice, e-mail, and data communications between all locations; provide equipment and processes to lower NAMTC's overall telecom costs; and monitor systems to ensure the best possible uptime.

FORTINET FIREWALLS AIDED the creation of secure connections.

At the headquarters we installed a Dell PowerEdge server that runs Microsoft Small Business Server 2003 and acts as a file, print, and Microsoft Exchange mail server. Next, we installed Fortinet (www.fortinet.com) firewalls: a Fortigate 60B at the headquarters, and a Fortigate 50B at each Conneaut, Ohio, plant, as well as at the Tampa office. Employing the Fortigate firewalls, we created a secure connection between each separate location, enabling the locations to operate as if they existed within a single network.

We also installed an IP-based Fonality (www.fonality.com) telephone system, with the central phone server located in Cleveland, and with Polycom and Aastra IP phones at each location. In addition, we installed new Dell workstations in Conneaut and Tampa.

To address the backup and disaster-recovery challenges, we implemented an eFolder off-site backup service (www.voyantbackup.com) that runs at all four locations. We then upgraded the telecom at the headquarters from stand-alone phone lines to a T1 data circuit and added SIP trunks for Voice-over-IP communication.

We also upgraded the telecom infrastructure in the plants to a business-class cable Internet circuit, which allows data transfer and VoIP. Finally, we implemented monitoring of all firewalls, workstations, and servers, as well as of the phone system, and we set up access to a help desk for employees.

On the upgraded phone system, receptionists in Cleveland and Tampa can now answer calls for any of the facilities and provide administrative support for the plants by transferring calls to extensions or to the paging system. Voicemail-to-e-mail capabilities also allow voice messages to be archived on the central file server. Between telecom cost reductions and manpower efficiencies, NAMTC has realized several thousand dollars' worth of savings.

VOIP PHONES LIKE the Polycom SP-IP550 improve communication.

Our integrated approach also made NAMTC's company data accessible from any computer on the network at any location (given the right credentials). Our unified solution helps prevent downtime, as well, since my team at Voyant can now catch any problems before they become critical, and NAMTC can focus on serving customers and building business.

—Brian Rosenfelt, Voyant Technology

To read more about real-world tech solutions, see the Tech Audit blog at find.pcworld.com/64147. If you're an IT provider serving the small to midsize business market, and you'd like to learn how you can contribute to *PCWorld Tech Audit*, send e-mail to techaudit@pcworld.com. We're always looking for more talented pros.

Tech Audit is written and produced in cooperation with IT professionals in the field. All recommendations and opinions expressed represent the independent judgment of the authors and do not necessarily reflect those of *PCWorld* or its editorial staff. ●

MEET THE PROS

Voyant Technology

FOUNDED IN 2003, Cleveland-based Voyant Technology offers expert technology consulting for small to medium-size businesses. By providing experienced, personalized, responsive, and reliable technology management and support, Voyant streamlines clients' business processes. Voyant is a part of the Computer Troubleshooters network, a group of 450 franchises in 24 countries. Cofounder Brian Rosenfelt has served as a controller and CFO for various industries. He holds an active CPA certificate, is a Microsoft Registered Partner, and holds the FtOCC (Fonality Trixbox Open Communication Certification). For more information, visit voyanttechnology.com or call 216/393-5659.

MARCH
2010

Windows®. Life without Walls™.
Acer recommends Windows 7.

acer

TravelMate
TIMELINE

NEW TRAVELMATE TIMELINE
WORK SMARTER, TRAVEL LIGHTER

Acer® TravelMate® 8571

- Genuine Windows® 7 Professional
- Intel® Centrino® 2 Processor Technology
  Intel® Core™2 Duo Processor SU9400
- 4GB DDR3 1066 SDRAM
- 320GB[1] hard drive

TM8571-6465 (LX.TTX03.059)

$999

Visit acer.com/us

Windows® 7
Professional

Acer TravelMate Timeline means long-lasting efficiency for your business, and with Windows® 7 Professional pre-installed you get more done, faster and easier, wherever you are.

circle-line.eu - ADV

Windows®. Life without Walls™.
Acer recommends Windows 7.

Acer® Aspire® 4540

- Genuine Windows® 7 Home Premium
- Acer CineCrystal 14.0" display, 1366 x 768 resolution
- 320GB[1] hard drive
- Integrated Super-Multi drive
- 5-in-1 card reader
- 802.11b/g/Draft-N WLAN, gigabit LAN, V.92 modem
- Integrated webcam
- One-year limited warranty[2]

Acer Aspire 4540

- Genuine Windows® 7 Home Premium
- AMD Athlon™ X2 Dual-Core Processor M300
- 4GB DDR2 667 SDRAM

AS4540-1047 (LX.PFN02.052)

$549

Acer Aspire 4540

- Genuine Windows® 7 Home Premium
- AMD Athlon™ X2 Dual-Core Processor M300
- 3GB DDR2 667 SDRAM

AS4540-5424 (LX.PFN02.046)

$529

Windows 7 Home Premium

Windows® 7 Home Premium allows you to manage and share information more easily, enjoying your photos, music, videos, games and DVDs.

Acer® TravelMate® 6593

- Genuine Windows® 7 Professional
- CD with Genuine Windows® XP Professional[3]
- 15.4" display, 1280 x 800 resolution
- Modular Super-Multi drive
- Multi-in-one card reader
- 802.11a/b/g/Draft-N WLAN, Bluetooth®, gigabit LAN
- Integrated webcam
- Fingerprint reader
- Optional docking station available
- Three-year limited warranty[2]

Acer TravelMate 6593

- Genuine Windows® 7 Professional
- Intel® Centrino® 2 with vPro™ technology Intel® Core™2 Duo Processor P8700
- 4GB DDR3 1066 SDRAM
- 320GB[1] hard drive, 7200RPM

TM6593-6639 (LX.TPV03.006)

$1,099

Acer TravelMate 6593

- Genuine Windows® 7 Professional
- Intel® Centrino® 2 with vPro™ technology Intel® Core™2 Duo Processor P8700
- 3GB DDR3 1066 SDRAM
- 250GB[1] hard drive, 7200RPM

TM6593-6585 (LX.TPV03.007)

$999

Windows®. Life without Walls™.
Acer recommends Windows 7.

ASPIRE one
Your **second** connection

Acer® Aspire® One D250

- Genuine Windows® 7 Starter
- 10.1" display, 1024 x 600 resolution, Acer CrystalBrite Technology
- 1GB DDR2 667 SDRAM
- 160GB[1] hard drive
- Multi-in-one card reader
- 802.11b/g/Draft-N WLAN, 10/100 LAN
- Integrated webcam
- Up to nine hours battery life[4]
- One-year limited warranty[2]

Acer Aspire One D250

- Genuine Windows® 7 Starter
- Intel® Atom™ Processor N270
- Six-cell battery
- 2.8 lb

AOD250-1410 (LU.S680D.206) - Sapphire blue chassis
AOD250-1719 (LU.S670D.233) - Diamond black chassis

$349

Acer Aspire One D250

- Genuine Windows® 7 Starter
- Intel® Atom™ Processor N270
- Three-cell battery
- 2.4 lb

AOD250-1827 (LU.S680D.205) - Sapphire blue chassis
AOD250-1579 (LU.S670D.234) - Diamond black chassis

$329

Acer B273HU bmidhz

- 27" wide-screen TFT LCD
- 2048 x 1152 maximum resolution
- 40000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP), HDMI, four USB signal connectors
- 400 cd/m² brightness
- 5ms response time
- Two 1.5W integrated speakers
- Height, tilt and swivel adjustments

(ET.HB3HP.001)

$445

Acer D240H bmidp

- 24" wide-screen TFT LCD
- 1920 x 1080 maximum resolution
- 80000:1 dynamic contrast ratio
- 170°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP), HDMI, USB signal connectors
- 300 cd/m² brightness
- 2ms gray-to-gray response time
- Two 2.0W integrated speakers
- Digital photo frame function
- 1GB[1] storage
- CompactFlash®, Secure Digital card reader
- Tilt adjustment

(ET.FD0HP.001)

$325

acer

Acer® Aspire® 5542

- Genuine Windows® 7 Home Premium
- Acer CineCrystal 15.6" display, 1366 x 768 resolution
- 4GB DDR2 667 SDRAM
- 320GB[1] hard drive
- Integrated Super-Multi drive
- 5-in-1 card reader
- 802.11b/g/Draft-N WLAN, gigabit LAN, V.92 modem
- Integrated webcam
- One-year limited warranty[2]

Dolby Surround Sound

Acer B243HL bmdrz

- 24" wide-screen TFT LCD
- White LED backlight
- 1920 x 1080 maximum resolution
- 8,000,000:1 dynamic contrast ratio
- 170°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP), four USB signal connectors
- 250 cd/m² brightness
- 5ms response time
- Two 2.0W integrated speakers
- Height, pivot, tilt and swivel adjustments

(ET.FB3LP.002)

$299

Acer Aspire 5542

- Genuine Windows® 7 Home Premium
- AMD Athlon™ X2 Dual-Core Processor M300

AS5542-1462 (LX.PHA02.058)

$549

Windows®. Life without Walls™.
Acer recommends Windows 7.

Acer Aspire Z5600
Forget the mouse

Acer® Aspire® Z5600

- Genuine Windows® 7 Home Premium
- 23" wide touch-screen with integrated speakers
- 4GB DDR3 SDRAM
- 1TB[1] SATA hard drive
- Super-Multi drive
- Multi-in-one card reader
- 802.11b/g/Draft-N wireless LAN
- Integrated webcam
- Wireless keyboard and mouse

All-in-One PC

Touch-Screen

Acer Aspire Z5600

- Genuine Windows® 7 Home Premium
- Intel® Core™2 Quad Processor Q8200S

AZ5600-U1352 (PW.SC902.039)

$999

Acer T230H bmidh

- 23" wide-screen TFT LCD
- Touch-screen capable[5]
- 1920 x 1080 maximum resolution
- 80000:1 dynamic contrast ratio
- 160°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP), HDMI™ signal connectors
- 300 cd/m² brightness
- 2ms gray-to-gray response time
- One 1.5W integrated speaker
- Height, tilt and swivel adjustments

(ET.VT0HP.001)

$379

Acer® Veriton® X480G

- Genuine Windows® 7 Professional
- Downgrade right to Genuine Windows® XP Professional[3]
- Super-Multi drive
- Gigabit LAN
- PS/2®-style keyboard and optical mouse
- 4.0" W x 15.6" D x 10.5" H
- Three-year limited warranty[2] with limited on-site service during first year[6]

Compact PC

Acer Veriton X480G

- Genuine Windows® 7 Professional
- Intel® Core™2 Quad Processor Q8400
- 4GB DDR3 SDRAM
- 320GB[1] SATA hard drive

VX480G-EQ8400C (PS.V9703.005)

$699

Acer Veriton X480G

- Genuine Windows® 7 Professional
- Intel® Core™2 Duo Processor E7600
- 3GB DDR3 SDRAM
- 320GB[1] SATA hard drive

VX480G-ED7600C (PS.V9703.004)

$599

Acer Veriton X480G

- Genuine Windows® 7 Professional
- Intel® Pentium® Processor E5300
- 2GB DDR3 SDRAM
- 160GB[1] SATA hard drive

VX480G-ED5300C (PS.V9703.006)

$479

Acer S243HL bmii

- 24" wide-screen TFT LCD
- White LED backlight
- 1920 x 1080 maximum resolution
- 8,000,000:1 dynamic contrast ratio
- 170°/160° horizontal/vertical viewing angles
- VGA, two HDMI™ (HDCP) signal connectors
- 250 cd/m² brightness
- 2ms gray-to-gray response time
- One 2.0W integrated speaker
- Tilt adjustment

(ET.FS3LP.001)

$299

Acer G245H bmid

- 24" wide-screen TFT LCD
- 2010 Olympics model
- 1920 x 1080 maximum resolution
- 80000:1 dynamic contrast ratio
- 170°/160° horizontal/vertical viewing angles
- VGA, DVI (HDCP), HDMI™ signal connectors
- 300 cd/m² brightness
- 5ms response time
- Two 2.0W integrated speakers
- Tilt adjustment

(ET.FG5HP.001)

$259

Windows®. Life without Walls™.
Acer recommends Windows 7.

acer

Acer® TravelMate® 5530

- Genuine Windows® 7 Professional
- CD with Genuine Windows® XP Professional[3]
- 15.4" display, 1280 x 800 resolution
- Integrated Super-Multi drive
- Multi-in-one card reader
- 802.11a/b/g/Draft-N WLAN, Bluetooth®, gigabit LAN, V.92 modem
- Integrated webcam
- Fingerprint reader
- Optional docking station available
- One-year limited warranty[2]

Acer TravelMate 5530

- Genuine Windows® 7 Professional
- AMD Turion™ X2 Dual-Core Mobile Processor RM-75
- 4GB DDR2 667 SDRAM
- 320GB[1] hard drive

TM5530-5155 (LX.TQ903.004)

$749

Acer TravelMate 5530

- Genuine Windows® 7 Professional
- AMD Athlon™ X2 Dual-Core Processor QL-65
- 3GB DDR2 667 SDRAM
- 250GB[1] hard drive

TM5530-5369 (LX.TQ903.006)

$649

Protect Your Investment with an Acer Notebook Service Upgrade

Quality is built into every notebook PC Acer makes, and each comes with a one-year or three-year standard limited warranty.[2] It includes hardware technical support via toll-free phone plus a concurrent International Traveler's Warranty for travel outside the U.S. and Canada. For extra protection – and peace of mind – consider a warranty extension or, even better, the **Total Protection Upgrade**. This plan covers the cost of a replacement unit if, as determined by Acer, your covered notebook cannot be repaired.

2-Year Extension of Limited Warranty (146.AB820.EX2)
for Notebooks with 1-Year Limited Warranty
$99

2-Year Extension of Limited Warranty + 3-Year Total Protection Upgrade (146.AD077.002)
for Notebooks with 1-Year Limited Warranty
(Total Protection Upgrade runs concurrently with limited warranty and limited warranty extension)
$199

3-Year Total Protection Upgrade (146.AD339.004)
for Notebooks with 3-Year Limited Warranty
(Total Protection Upgrade runs concurrently with limited warranty)
$99

Each of these upgrades prepays freight from the Acer repair depot and excludes extension of the International Traveler's Warranty.

[1] When referring to storage capacity, TB stands for a thousand gigabytes and GB for one billion bytes. Some utilities may indicate varying storage capacities. Total user-accessible capacity may vary depending on operating environments.
[2] For a free copy of the standard limited warranty end-users should see a reseller where Acer products are sold or write to Acer America Corporation, Warranty Department, P.O. Box 6137, Temple, TX 76503.
[3] The alternate operating system can be installed in place of, not in addition to, the pre-loaded operating system.
[4] With six-cell, 5800mAh battery and depending on configuration and usage
[5] Touch-screen capability requires appropriate software installed on the PC connected to the display. This software does not come with the display.
[6] On-site service applies to the continental U.S. and Canada only and may not be available in all locations. In those areas where on-site service is provided, a technician will be dispatched, if necessary, following efforts to resolve the problem by telephone support.

acer **acer.com/us**

For the name of a reseller near you or further information, please visit our Web site or call **800-571-2237**

© 2010 Acer America Corporation. All rights reserved. Pricing is effective from February 15, 2010 through March 31, 2010. Information is subject to change without notice. Prices shown are estimated street prices and do not include tax or shipping. Retailer or reseller prices may vary. Product images are representations of some of the models available and may vary from the model you purchase. Acer, the Acer logo, Aspire, TravelMate and Veriton are registered trademarks of Acer Inc. Microsoft, Windows, the Windows logo, and Windows Vista are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. Other names and brands may be claimed as the property of others.

Malware Aims to Evade Windows 7 Safeguards

BY ERIK LARKIN

EXPERTS AGREE THAT Windows 7 has enhanced security to ward off attacks on vulnerabilities in old software. But what if a money-minded online scammer can persuade you to download malware onto your PC?

"Windows 7 is more secure, and upgrading to it is a big improvement," says Chester Wisniewski, a senior security advisor with software-maker Sophos. "But it's not going to stop malware in its tracks."

> Windows 7 adds a number of new security features, but social engineering attacks mean that you can't let your guard down.

Exploits Take a Hit

Digital crooks generally use two tactics to install malware on a PC. Exploits often take the form of a snippet of attack code hidden on a Web page—often a hacked-but-otherwise-benign site. When you browse the page, the exploit hunts for software flaws in Windows or in third-party programs such as Adobe Flash or QuickTime. If it finds one, the exploit may surreptitiously install malware without any hint of the attack.

In contrast, social engineering attacks try to trick you into downloading and installing bot malware that poses as a useful program or video. Some attacks combine tactics, as when a scammer sends an e-mail message encouraging you to open an attached PDF file, only to trigger an exploit buried in the file that then hunts for a flaw in Adobe Reader.

Security upgrades in Windows 7 could help prevent many attacks that target software flaws. ActiveX attacks, once the bane of Internet Explorer users, may "pretty much disappear" due to IE 8's Protected Mode, says H.D. Moore, chief security officer at Rapid7 and creator of the Metasploit testing tool.

The arcane-sounding Address Space Layer Randomization makes it harder for crooks to find a vulnerability for a running program in your computer's memory. The related Data Execution Prevention feature attempts to prohibit an attack from taking advantage of any flaw that it may discover.

"These two, in particular, could have a very large impact," says Wisniewski. Still, though ASLR and DEP were expanded to protect more programs in Windows 7 than in Vista, they don't cover all applications.

Vista Safer Than XP?

For a sense of what that impact might be, we can look at how Vista fared against malware. Microsoft's latest Security Intelligence Report covers the first half of 2009 (find.pcworld.com/64271), prior to Windows 7's release. It's based on data from the Malicious Software Removal Tool, which Microsoft distributes via Automatic Updates to fight common malware infections. According to that data, the infection rate for an up-to-date Vista computer was 62 percent lower than that for an up-to-date XP system.

It's possible, of course, that Vista users are technologically savvier on average, and so less likely to fall victim to malware. The sample sizes for XP and Vista, which Microsoft didn't include in the report, might skew the statistics, as well.

But Sophos's Wisniewski thinks that ASLR and DEP are factors, too. And since those features are expanded in Windows 7, there's reason to hope they'll continue to be effective.

"I don't see this going away anytime soon," says Moore. »

ILLUSTRATION: BRIAN STAUFFER

PCWORLD.COM

Want to learn more about the security enhancements that Microsoft has introduced for Windows 7? Browse to find.pcworld.com/64363 for a discussion of the new features and how to make the most of them.

He notes that there are plenty of ways crooks can and likely will continue to ply their evil trade against the new OS. But "it does raise the bar," Moore says.

Hacking People, Not Programs

Exploit-based attacks may be harder to pull off against Windows 7, but social engineering attacks may be as dangerous as ever. And the theoretically less-annoying User Account Control does little to disable poisoned downloads.

In October, Sophos ran a test to see how Windows 7 and UAC would handle malware. First, the testers grabbed the first ten samples of malicious software that came into their lab. They then ran those samples on a fresh Windows 7 machine with UAC at its default settings, and with no antivirus installed.

Two samples couldn't run on Windows 7 at all. But at its default setting, UAC blocked only one sample, leaving seven pieces of malware that loaded right up.

Sophos's test (find.pcworld.com/64272) highlights two points. First, Wisniewski and others say, UAC isn't designed to block malware as much as it is to encourage programmers to write software that doesn't require special privileges—so you shouldn't count on it for protection.

Second, if a bad guy tricks you into downloading a Trojan horse, ASLR and DEP don't matter. IE 8's SmartScreen filter and similar features in other browsers might block known nasties, but the malware universe is bigger than that.

Social engineering ruses include using a hijacked social network account to send malware lures to friends of the owner, sending a link to a supposed video taken of a friend, and hiding a poisoned URL in a shortened link of the type commonly used on Twitter. (For more on such threats, see page 68.)

Toss in other tried-and-true scams such as videos that instruct you to install a codec file (but instead lead you to a malware download), and phony documents attached to e-mail messages that appear to come from coworkers, and it becomes clear why Windows 7 users can't let their guard down.

BUGS & FIXES

ERIK LARKIN

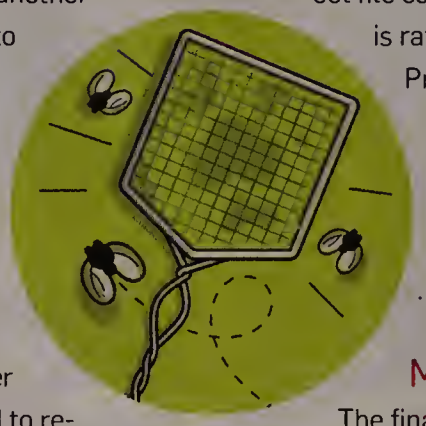
Adobe Reader, Acrobat Come Under Fire

Flaws in the popular programs were attacked before a fix was available.

ADOBE PRODUCT security took another hit recently when reports surfaced of a zero-day attack against a critical vulnerability in the ubiquitous Adobe Reader.

The flaw affects both Reader and Acrobat on all platforms, and lets an attacker install malware on your PC if you open a malicious PDF file using version 9.2 or earlier of either app. Small-scale, targeted attacks have already occurred in the wild. By the time you read this, Adobe should have a patch out. Select *Help•Check for Updates* to get it; and see Adobe's security bulletin at find.pcworld.com/64349.

Adobe's Illustrator has another critical flaw that remains to be fixed. Opening a tainted EPS file could trigger an attack if you have Illustrator CS4 version 14.0.0, or Illustrator CS3 version 13.0.3 or earlier, on any operating system. As with the Reader vulnerability, Adobe hoped to release a fix at around the time we went to press. Look for a patch announcement at find.pcworld.com/64350; for details, see Adobe's bulletin (find.pcworld.com/64351).



Adobe did release necessary patches for its Flash Player and AIR programs on all platforms. Among the critical flaws that these fixes corrected was a bug in the way the programs handled JPEG images. To check your version of Flash, visit find.pcworld.com/64352; versions 10.0.32.18 and earlier need updating to version 10.0.42.34, which you can grab at find.pcworld.com/64353. AIR versions 1.5.2 and earlier need to bump up to version 1.5.3, which is available for download at find.pcworld.com/64354. Adobe's bulletin is at find.pcworld.com/64355.

Jumbo Update for IE

Microsoft's latest batch of patches has a cumulative update for all Internet Explorer versions. This bundle includes fixes for last month's zero-day flaw affecting IE 6 and 7. The update is rated critical for IE 5 on Windows 2000, for IE 6 on Windows XP or Server 2003, and for IE 7 on XP and Vista. It's also required for IE 8 on XP, Vista, and Windows 7; but it's rated only moderate for IE 7 and 8 on Server 2003 and Server 2008. See the MS09-072 bulletin (find.pcworld.com/64356).

Next up for Microsoft is MS09-074 (find.pcworld.com/64357), a fix for an Office Project flaw that a malicious Project file could trigger. The update is rated critical for Microsoft Project 2000 SP1, and important for 2002 SP1 (part of Office XP) and 2003 SP3. Office 2007 is not affected.

Additional Microsoft Fixes

The final critical Microsoft fix, MS09-071 (find.pcworld.com/64358), affects only Windows Server 2008. But you should also pick up a number of less-crucial patches. One of them (MS09-073, find.pcworld.com/64359) fixes a bug in WordPad and in Office Text Converters that a maliciously crafted Word 97 file could exploit. Another update (MS09-069, find.pcworld.com/64361) prevents a specially created Internet Security Association and Key Management Protocol message from crashing Windows 2000, XP, or Server 2003. To obtain all of the new patches, fire up Windows Update. For Microsoft's security bulletin summary, visit find.pcworld.com/64362.

BUGGED?

FOUND A HARDWARE or software bug? Send us an e-mail on it to bugs@pcworld.com.

ILLUSTRATION HARRY CAMPBELL

good thing we're smarter

Cybercriminals have gotten good. How good? Now, their attacks can lay dormant, fooling many anti-virus products. Then, when your computer is vulnerable... they attack.

BitDefender 2010 features "intelligent" security, which tracks everything going on in your PC... all the time, to foil these sneak attacks. Best of all, this "intelligent" protection won't slow you down. Now, that's what we call good!

Is your computer virus-free? Are you sure?

Take our FREE 60-second QuickScan to find out.
You might be surprised at what you find.
Go to www.bitdefender.com/bitscan now!

bitdefender

amazon.com BEST BUY DELL Fry's FUTURE SHOP LONDON DRUGS MICRO CENTER OfficeMax STAPLES

25 Million New Malware Strains Found in 2009

MORE THAN 25 million new strains of malware were created last year, according to researchers at PandaLabs.

As outlined in the security vendor's Annual Malware Report, the number of new versions of malware identified far outstripped the 15 million that the company has previously identified over the course of its 20-year history.

The PandaLabs report says that 66 percent of the new malware specimens the researchers identified consisted of banking Trojan horses. The next-most-popular type was scareware (also known as fake antivirus software), which encourages Web users to voluntarily purchase and download hoax security software that serves no useful purpose.

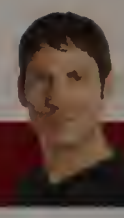
The security vendor predicts that the amount of malware in circulation will continue to grow during 2010.

"Windows 7 will surely attract the interest of hackers when it comes to designing new malware, and attacks on Mac will increase. While we are likely to witness more politically motivated attacks, the report concludes that, once again, this will not be the year of the mobile phone virus," PandaLabs says.

The report also reveals that 92 percent of all e-mail messages sent in 2009 were classed as spam, and that social networks such as Facebook and Twitter became popular with cybercriminals as a distribution channel for malware.

—Carrie-Ann Skinner

PRIVACY WATCH ERIK LARKIN



Will Cloud Computing Kill Privacy?

AS CLOUD COMPUTING speeds ahead, privacy protections are too often being left in the dust.

> Your private information should remain private regardless of where it might be. But you can't count on that happening.

Loosely defined, cloud computing involves programs or services that run on Internet servers. Despite the buzz surrounding it, the idea isn't new—think Webmail. But huge benefits, such as being able to gain access to your data from anywhere and not having to worry about backups, have led more people to leap to the Internet to do everything from writing documents and watching movies to managing their businesses. Unfortunately, privacy is often still stuck at home.

Behind the Times

Archaic laws that focus on where your information is, rather than what it is, are part of the problem. But a disturbing lack of respect for essential privacy among industry heavyweights who should know better is also evident.

Consider comments that Google CEO Eric Schmidt made during a recent CNBC interview. In response to the question, "People are treating Google like their most trusted friend. Should they be?" Schmidt responded, "If you have something that you don't want anyone to know, maybe you shouldn't be doing it in the first place." The taped interview segment is available at find.pcworld.com/64269.

This kind of "only the guilty have anything to hide" mindset is a privacy killer, and rests on the completely flawed notion that people want privacy only when they're doing something wrong. There's nothing wrong with my taking a shower or searching for information about a medical condition. But it's still private.

It's possible Schmidt spoke without thinking—Google is mum for now on the prospect of issuing a clarification of any kind. But meanwhile, privacy is taking a pounding in other areas, as well.

Last summer, a U.S. District Court judge in Oregon ruled that government law enforcement agencies need not provide you with a copy of a warrant they have obtained in order to read all of your e-mail stored on an Internet server—where most of us keep e-mail these days. It's sufficient to give your Internet service provider notice, according to Judge Michael Mosman. You can read his judicial opinion and order in the case (in PDF form) at find.pcworld.com/64270.

In his opinion, Mosman noted the Fourth Amendment's "strong privacy protection for homes and the items within them in the physical world." Still, he said, "When a person uses the Internet, however, the user's actions are no longer in his or her physical home; in fact he or she is not truly acting in private space at all."

The Cloud of Unknowing

This focus on the physical location of data ignores how people use the Internet. The Internet and cloud computing support a huge range of activities. And there's a big difference between data I post on Facebook and data I store in a Google Doc. Wherever it is, if it's personal data I don't explicitly share, it's private.

If we are to have a sound basis for trusting cloud computing, with its call to store and run everything on the Internet, both laws and attitudes need to catch up to 21st-century reality. Until then, don't expect real privacy online. ●

ILLUSTRATIONS: JASON SCHNEIDER (LEFT); HARRY CAMPBELL (RIGHT)

Spector 360 makes it Easy to Identify Inappropriate Employee Behavior

Monitor Employee PC & Internet Activity

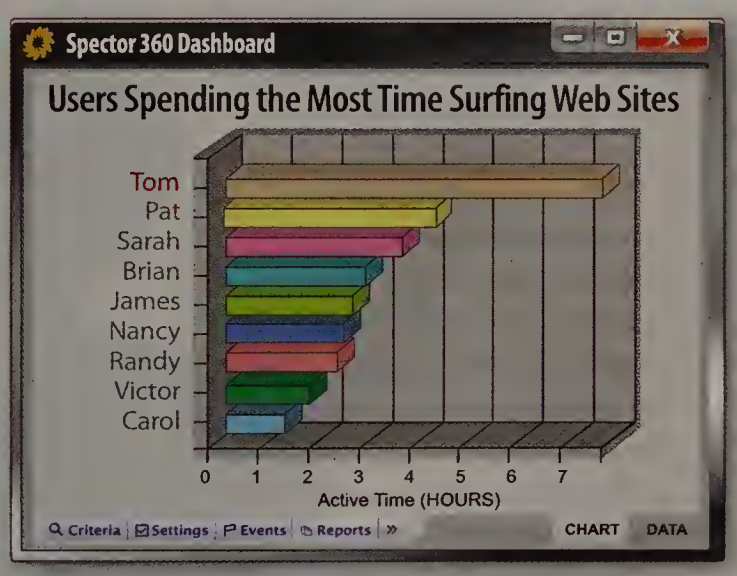
Spector 360 is the world's first monitoring solution that makes it easy to detect inappropriate employee behavior. At the touch of a button, you will see ALL PC & Internet activity for your entire company and find out which employees are working, playing, doing their job efficiently or putting your business at risk by engaging in illicit or illegal behavior.

Spector 360 Records ALL Your Employees'

- Emails (Sent and Received)
- Chats & Instant Messages
- Keystrokes Typed
- Web Sites Visited
- Files Saved to Removable Media
- Google & Other Online Searches
- Network Traffic

and much more...

Plus, Spector 360 includes a powerful screen snapshot recorder that shows you in exact visual detail what an employee does every step of the way… think of it as a surveillance camera for your office PCs.



More than built-in 50 charts and reports allow you to quickly and easily identify your top achievers, productivity wasters, and anyone engaging in inappropriate or potentially damaging conduct.

Expect to See Immediate Results

See results within 24 hours of installing Spector 360… we guarantee it! Don't just take our word for it. Try Spector 360 for yourself by calling **1.877.288.5699** and requesting a FREE test drive.

PC MAGAZINE EDITORS' CHOICE

PC Magazine Editors' Choice

"Spector 360 is the most mature surveillance offering for business use."

SPECTOR 360®

Monitoring, Surveillance and Investigation Software

For more information, visit:

WatchWith360.com

or call us anytime

1.877.288.5699

Reviews & Rankings

Pico Projectors Take Presentations Seriously

Pocket-size projectors can display images anywhere, but how practical are they for office use? We tested seven of the latest models.

PICK OF THE PICOS: 3M's sharp MPro120 (top), Optoma's PK102 (middle), and Aaxa's P2 finished 1-2-3 in our projector rankings.

THOUGH DESIGNED chiefly to display video or photos, so-called pico projectors have also attracted users who want to do impromptu presentations for small audiences.

Until recently, these gadgets lacked adequate brightness and image quality for formal business use. But the latest models have more illuminating power, better image quality, and more features—so they're getting respect as business tools.

To see how well pico projectors work, we compared the performance, features, and usability of seven of the latest models we could find. We judged each model on its display of text, still images, animated presentations, videos, and DVD movies.

The devices we tested use light-emitting diode (LED) illumination and one of two types of pico projector display technology: liquid crystal on silicon (LCoS) or Texas Instruments' Digital Light Processing (DLP). A third type of pico projector display technology uses a laser for its light source, but we couldn't obtain a laser-based evaluation model in time for this review. Overall, the LCoS models had higher resolutions and displayed more-legible text, while DLP models displayed more-brilliant colors with better-looking graphics.

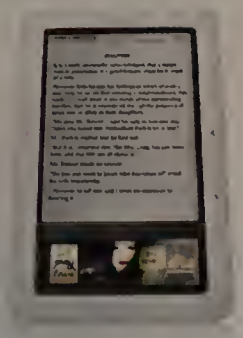
Testing Picos

To test the projectors, we hooked them up to various external devices: an iPhone 3GS, a fifth-generation iPod Nano, a digital camera, a DVD player, and a laptop. All seven units tested came with a composite A/V cable for connecting to devices that have compatible video-out capability; but only the WowWee Cinemin Swivel included a 30-pin adapter for connecting to our test iPod and iPhone. We used an Apple Composite AV Cable ($49) to run our iPod/iPhone tests on the other projectors.

Aaxa's P2, Aiptek's PocketCinema V10 Plus, and Optoma's PK102 have built-in media players and internal memory, and can display stored content on their own. The other four picos are pass-through projectors that require a portable media player or other external device to supply content.

PHOTOGRAPHS ROBERT CARDIN

INSIDE



56 BARNES & NOBLE Nook

60 ROKU HD-XR

61 CANON POWERSHOT SX20 IS

65 VIEWSONIC VPD400 MovieBook HD

We conducted both daytime and nighttime tests to assess the gadgets' versatility. Predictably, the closer you place a pico projector to the screen, the brighter and more colorful the image gets; and the lower the ambient light level is, the more viewable the image becomes. In our daytime tests, all seven models could display at least a 24-inch-diagonal image acceptably in a room with low ambient light; in darkened rooms, most models we tested could display 50-inch-diagonal images adequately.

Whether you want a pico projector for business or for fun, you can find one that matches your budget.

1. 3M MPro120

At 0.9 by 2.4 by 4.7 inches and 5.6 ounces the MPro120 is the size of a typical point-and-shoot camera, and it fits into a pocket just as easily.

The unit has a high brightness rating (12 lumens), good battery life (2 to 4 hours), and superior image quality.

In our tests at a distance of 3 feet from the screen, the $350 MPro120 displayed very viewable 640-by-480-resolution images at sizes of up to 28 inches (measured diagonally) in a room with low ambient daylight. In a darkened room at night, the MPro120 successfully displayed a 60-inch-diagonal image when positioned 6 feet from the screen, making it useful as an after-hours entertainment device.

THE NUMBER FOUR
Aiptek Pocket Cinema V10 Plus (top) and the fifth-place Wowwee Cinemin Swivel.

The MPro120 reproduced accurate color hues that were free of oversaturation. Graphics retained fine details in light and dark areas, and text was crisp on PowerPoint slides and in other text images. In motion tests with a DVD, podcasts, and YouTube videos, the MPro 120 displayed smooth action.

The streamlined design of the MPro120 makes this model a breeze to use. The controls on top for power, brightness, and volume are readily accessible. In front, a focus wheel for the projector's lens is well-positioned and easy to adjust. The bundled 4.5-inch flexible tripod is another convenience.

Because the MPro120 is a pass-through projector, it requires an external device to handle its video content.

2. Optoma PK102

Despite being the smallest pico projector we tested (at 4.4 ounces and 0.6 by 2.0 by 4.1 inches), the $250 Optoma PK102 can handle business presentations for small audiences under low lighting without additional hardware.

The PK102 has a brightness rating of 11 lumens; delivers 20,000 hours of LED light; and has 4GB of internal memory for storing presentations, movies, video clips, and digital images. It uses DLP projection technology, and comes bundled with VGA, USB, and composite A/V cables to connect it to devices that have video signal output. Or you can project content from the built-in media player. Battery life is 60 to 90 minutes.

In low ambient daylight at a distance of 4 feet from the screen, the PK102 displayed good 30-inch-diagonal images at 480 by 320 resolution. In a darkened room at night, it displayed a 46-inch-diagonal image at a distance of 6 feet from the screen.

In our performance tests, the PK102 showed vivid colors and earned a rating of Very Good for overall image quality. It displayed large sans serif fonts well, but smaller text was less legible.

In our graphics tests, the PK102 displayed brilliant colors in several images, but in a few cases, objects appeared oversaturated. The »

projector ran smoothly in our motion tests; audio from its 0.5-watt monaural speaker) was rather weak.

The PK102's controls consist of a focus dial and a menu button for adjusting volume and for using the on-screen display to select photos, videos, or settings. The unit has a tripod screw hole, but it lacks a mini-tripod.

3. Aaxa P2

The Aaxa P2 has strong specs for a pico projector: SVGA (800 by 600) native resolution, a brightness rating of 33 lumens, and an LED light rated for 30,000 hours.

This LCoS unit can independently display content, thanks to a built-in media player with 1GB of memory, a 4GB MicroSD card reader, and dual 0.5-watt speakers.

On the downside, the P2 is larger (1.0 by 2.3 by 4.3 inches), heavier (9.2 ounces) and louder (30dB) than most other picos; its rechargeable battery lasts only about 50 to 60 minutes; and its color quality is mediocre.

In low ambient daylight at a distance of 5 feet from the screen, the P2 displayed clear 37-inch-diagonal images. In a darkened room at night, the P2 displayed 80-inch diagonal images at a distance of 11 feet from the screen.

The P2 earned an overall rating of Very Good for image quality, with results ranging from superior text images to mediocre color graphics with undersaturated hues and dull, washed-out color.

The P2 delivered smooth action in a DVD screening, and with content piped via an Apple iPhone or Apple iPod.

Accessories include AV, VGA, and USB cables; a battery clip, a metal tripod, a remote control, and a battery pack dock for recharging the battery.

The P2's controls include off/on buttons for illumination and for the projector's fan, plus a focus dial and buttons for accessing the unit's on-screen display, card reader, and media player. You get a handy remote control, too.

4. Aiptek PocketCinema V10 Plus

The $359 Aiptek PocketCinema V10 Plus's best attribute is its ability to display content without being attached to an external device.

Weighing 5.6 ounces (with battery) and measuring 0.9 by 2.2 by 4.9 inches, the V10 Plus has a native VGA resolution of 640 by 480, a brightness rating of 10 lumens, and a battery life of 90 minutes.

The unit's card slot reads 32GB SDHC memory cards, and its media player has 4GB of internal memory. A small metal tripod and a useful remote control simplify setting it up and controlling presentations. No other pico we tested captures video (up to 1.7GB per clip) via its A/V input port from an external source such as a camcorder.

But the V10 Plus's LED light is rated for just 10,000 hours, the unit uses an older LCoS projection engine, and the projector lacks a VGA input, relying instead on an included S-Video cable.

In low ambient light at a distance of 3 feet from the screen, the V10 Plus delivered a nice 23-inch-diagonal image. In a darkened room, it displayed a 48-inch-diagonal image from 6 feet away.

The V10 Plus earned a rating of Good for image quality. Text and color graphics didn't match several competing models' output. In our motion tests, the V10 Plus displayed some jerkiness during fast action sequences of our test DVD. Sound from the dual 0.5-watt speakers was adequate.

The V10 Plus comes with USB and composite (RCA-type) A/V cables. Or you can use the unit's built-in media player to project content.

5. WowWee Cinemin Swivel

The $350 WowWee Cinemin Swivel's 90-degree hinge lets you adjust the lens across a wide arc of display angles.

You can project iPod- or iPhone-based content right out of the box, thanks to the bundled iPod/iPhone 30-pin adapter. It also comes with a composite (RCA-type) A/V cable.

The Cinemin Swivel has a native resolution of 480 by 320 and uses DLP projection technology. It weighs about 6.1 ounces (with battery) and measures 0.9 by 2.1 by 4.7 inches. The unit has a 20,000-hour LED light and strong battery life (135 minutes), but its brightness rating is just 8 lumens. In our tests in low ambient daylight, the Cinemin Swivel projected a good 29-inch-diagonal image at 4 feet from the screen; in a darkened room at night, it managed a 45-inch-diagonal image from 6 feet away.

The Cinemin Swivel received an overall rating of Very Good for image quality, but its vivid colors sometimes looked oversaturated. It tended to lose detail in dark areas, no doubt due to its lower brightness. Text looked good in large sans serif fonts, but not in smaller text on Web pages.

In our motion tests, the Cinemin Swivel displayed smooth action. Sound from its 0.5-watt mono speaker »

THE RAY DISPLAYS Ray (top) and the Favi Entertainment PJM-1000 were back-of-the-pack finishers.

MORE ONLINE

For complete reviews and test reports of the pico projectors we tested for this story, go online to find.pcworld.com/64372.

newegg.com®

ONCE YOU KNOW, YOU NEWEGG.®

Voted Best Place to Buy Online
6 Years in a Row! -Shopper's Choice Award

EXCLUSIVE LAUNCH AT NEWEGG
SEARCH NEWEGG: "LEVEL 10"

YOUR I.T. HEADQUARTERS

NEWEGG.COM WHERE WE EAT, SLEEP, LIVE AND BREATHE COMPUTER TECHNOLOGY

Authorized Retailer:

AMD · Antec · ASUS · CORSAIR · crucial · EVGA · hp invent · intel · LG · LINKSYS by Cisco · Logitech · Microsoft · NVIDIA · OCZ · Seagate · SAMSUNG · SONY · Thermaltake · Western Digital · XFX

and more...

Also: newegg.ca · newegg business

10 Newegg Inc. All rights reserved.

Follow us on:
TWITTER twitter.com/neweggdeals
FACEBOOK facebook.com/Newegg
MYSPACE myspace.com/newegg
YouTube youtube.com/newegg
EggXpert eggxpert.com

was acceptable near the projector but not elsewhere. The unit lacks a tripod or even a screw hole for attaching one.

Controls consist of a focus wheel, volume buttons, and a power switch. Video, audio (headphones or external speakers), and power/USB inputs are easy to access.

6. Ray Displays Ray

Priced at $229, this LCoS pico projector from Ray Displays features 10 lumens of brightness, a 20,000-hour LED light source, VGA resolution, a 2-hour battery life, and stereo speakers. It measures 0.7 by 2.3 by 4.4 inches and weighs 5 ounces (with battery); yet at a distance of 5 feet, it can display an attractive 40-inch-diagonal image in subdued light—and larger sizes in dark settings.

The Ray displayed text better than it rendered graphics, with bright, legible text in various fonts, but dull, washed-out color in graphics. In our motion tests, it displayed smooth action during a DVD screening. The Ray's built-in speakers were weak at any significant distance from the projector.

This model comes bundled with a flexible mini-tripod and various video cables, but it lacks built-in memory, a card reader for displaying stored content, and a VGA port. The Ray's battery isn't removable, and recharging it may take 5 hours or more.

7. Favi Entertainment PJM-1000

This inexpensive ($228) LCoS pico projector has limited features (no internal storage, memory card slot, speaker, or media player), but it can handle small presentations.

Weighing 6.4 ounces (with battery), the 0.9-by-1.9-by-4.4-inch PJM-1000 fits easily in an adult's hand. Strengths include a native resolution of 640 by 480 and a brightness rating of 12 lumens. But it has an unimpressive 10,000-hour LED life, and its lithium-ion battery lasts only 50 to 60 minutes.

The PJM-1000 projected a viewable 25-inch-diagonal image at 3 feet from the screen in low ambient daylight, and a 50-inch-diagonal image at 6 feet in a dark room at night. In image quality tests, it displayed legible text in PowerPoint slides and other images, but graphics suffered from washed-out color. The PJM-1000 slightly overscans (that is, crops out) the edges of various images it displays; we don't consider this to be a major problem, however.

The PJM-1000 is painless to set up and operate, and it comes with a flexible 4.5-inch tripod stand. Its only controls are a focus dial and an on/off switch. Favi supplies VGA and composite video cables, but nothing to link to an iPod or an iPhone.

The PJM-1000 doesn't let you stretch out its battery life by using a lower-lumen economy mode. But if the battery conks out, you can always plug the projector into a wall outlet using the lengthy 75-inch power cord included in the package.

—Richard Jantz

PC WORLD TOP PICO PROJECTORS

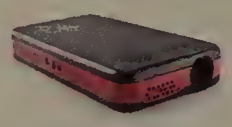
	MODEL	Rating	Features and specifications[1]
1	3M MPro120 $350 find.pcworld.com/64365	★★★★½ SUPERIOR	• 5.6 ounces; 640 by 480 resolution • 12 lumens/20,000-hour LED light • Battery life: 120 to 240 minutes • Flexible tripod stand
	▸ The sleek MPro 120 displays bright and sharp images, and its rechargeable battery lasts an exceptionally long time.		
2	BEST BUY Optoma PK102 $250 find.pcworld.com/64366	★★★★ VERY GOOD	• 4.4 ounces; 480 by 320 resolution • 11 lumens/20,000-hour LED light • Battery life: 60 to 90 minutes • Built-in 4GB media player
	▸ The tiny PK102 delivers vivid color images and handles stand-alone presentations through its built-in media player.		
3	Aaxa P2 $349 find.pcworld.com/64367	★★★★ VERY GOOD	• 9.2 ounces; 800 by 600 resolution • 33 lumens/30,000-hour LED light • Battery life: 50 to 60 minutes • Built-in 1GB media player
	▸ This powerful projector shows bright images and sharp text, but lackluster color and limited battery life lower its ranking.		
4	Aiptek PocketCinema V10 Plus $359 find.pcworld.com/64368	★★★★ VERY GOOD	• 5.6 ounces; 640 by 480 resolution • 10 lumens/10,000-hour LED light • Battery life: 90 minutes • Built-in 4GB media player
	▸ The PocketCinema V10 Plus is an extremely versatile stand-alone projector, though its image quality is undistinguished.		
5	WowWee Cinemin Swivel $350 find.pcworld.com/64369	★★★½ VERY GOOD	• 6.1 ounces; 480 by 320 resolution • 8 lumens/20,000-hour LED light • Battery life: 135 minutes • iPod/iPhone adapter included
	▸ Designed primarily as an Apple accessory, the Cinemin Swivel projects colorful iPod/iPhone images right out of the box.		
6	 Ray Displays Ray $229 find.pcworld.com/64370	★★★ GOOD	• 5.0 ounces; 640 by 480 resolution • 10 lumens/20,000-hour LED light • Battery life: 120 minutes • Flexible tripod stand
	▸ The no-frills Ray pico projector displays legible text on a small screen, but its color graphics and built-in battery disappoint.		
7	Favi Entertainment PJM-1000 $228 find.pcworld.com/64371	★★★ GOOD	• 6.4 ounces; 640 by 480 resolution • 12 lumens/10,000-hour LED light • Battery life: 50 to 60 minutes • Flexible tripod stand
	▸ The PJM-1000 carries a bargain price; but its features are limited and its image quality, for the most part, is mediocre.		

CHART NOTE: Ratings are as of 1/11/10. FOOTNOTE: [1]All weights are with battery included. All batteries are rechargeable; battery-life figures reflect manufacturers' specs, not measurements by PCWorld.

Now Available From PCWorld

Test Your PCs

The PCWorld Labs Way

www.worldbench.com

WorldBench 6

runs on all editions of Windows 7,
Windows Vista, and Windows XP,
including all 64-bit and 32-bit versions.

You can purchase one of three different licenses for WorldBench 6, according to your needs:

- **A Single User license** ($249) allows you to install and use the software on a single computer at a time.
- **A Small Business license** ($999) allows you to install and use the software for your internal business purposes on up to 5 computers at a time.
- **A Corporate license** ($2499) allows you to install and use the software for your internal business purposes on up to 25 computers at a time.

www.worldbench.com

Your company's bottom line depends on the performance of its PCs.

To assess and compare system performance across your organization, use the benchmarking software developed by the experts at PCWorld Labs.

Real-World Performance

WorldBench is the core set of applications that PCWorld uses to test desktop and laptop PCs. The results play an important role in PCWorld's computer reviews—the reviews you trust. Because our benchmark uses actual programs performing common functions, it is an excellent barometer of PC performance outside the lab and on your desk.

Automatic Testing

From Web browsing to file encoding to general tasks, the automated test scripts that run in WorldBench 6 are designed to deliver a tough evaluation of today's top computers. Although multicore processors and larger amounts of RAM are appearing even in budget PCs, it's important to have benchmarks that can accurately assess—and challenge—systems with a wide variety of configurations. WorldBench 6 delivers.

Since it's automated, the suite can report errors and restart failed tests without user input. It then records the results, including the final WorldBench 6 score as well as the individual results of each application's workload, in both text and graphs.

Refined over the past decade, WorldBench is currently used in over 30 countries by Fortune 500 corporations, government agencies, and international media outlets.

Visit WorldBench.com today and secure your DVD of WorldBench 6.

Google's Nexus One Comes With Hits and Misses

THE EAGERLY awaited "Google phone" is finally here, but the HTC Nexus One ($180 with a two-year T-Mobile contract, or $530 unlocked) isn't quite the superphone that Google intimated it would be. It lacks some valuable features—like multitouch and Outlook calendar syncing—that we've seen on competing models, and the Android keyboard can be hard to use. Even so, the speedy 1GHz Qualcomm Snapdragon processor does set the Nexus One apart from the Android pack.

Despite issues with T-Mobile's network, it is a very good handset and marks real progress for the Android platform.

Design Is Solid

Though the Nexus One's hardware isn't especially innovative, the phone is attractive (despite a drab two-tone gray color scheme) and is well built. Its rounded corners, solid-glass display, and rubberized back make it a pleasure to hold.

At 4.5 inches tall by 2.4 inches wide by 0.47 inch thick, the Nexus One is slimmer than the Motorola Droid, and it weighs less: 4.8 ounces versus the Droid's 6.

Four touch-sensitive hardware buttons occupy the bottom of the display: Back, Menu, Home, and Search. Below the buttons lies a trackball that's fast and easy to use. An oblong power button is at the top. On the right spine is the volume rocker, and on the bottom is the micro-USB port. The camera lens and flash are on the back; the microSD and SIM card slots hide under the battery.

The Nexus One's 3.7-inch AMOLED display is superb: Text pops out, and photos dazzle. It nicely showcases features such as the scrolling menu and the 3D wallpaper.

Android Is Updated

This is the first phone to run the Android 2.1 OS. It adds some lively visual and aesthetic tweaks, such as interesting animated wallpapers of falling leaves or waving grass, but they're a bit distracting and may cut into battery life.

Android 2.1 omits the tab for pulling up your main menu—a good thing, as you now have one-touch access to your menu via a central icon on your screen instead.

The most buzzed-about new element in Android 2.1 is the voice-to-text input feature. In my casual tests it worked fairly well, if I spoke loudly and slowly.

What's Missing

To use an Android phone, you must have a Gmail account, but you can also set up POP3 and IMAP Web-based e-mail accounts, and you can sync your Outlook account via Exchange.

THE NEXUS ONE'S AMOLED display beautifully showcases its features.

You can't sync your Outlook calendar, however. Google says this feature is coming soon; in the meantime, business users may want to hold off buying.

The lack of multitouch is incredibly frustrating—the software keyboard is cramped and slow—and the omission is surprising given the feature's presence on rival phones. I desperately wished for a hardware keyboard.

Superb Camera

Overall, I was pleased with the Nexus One's camera—I experienced less shutter lag than with other Android phones, for example. Outdoor shots looked fantastic.

You can record video clips at lengths of up to 30 minutes at a resolution of 720 by 480 pixels (20 frames per second); clips intended for multimedia messages, however, are capped at 30 seconds.

Mixed Performance

The Snapdragon processor makes the phone fly. Apps loaded almost instantaneously, and Web pages opened quickly.

Call quality over T-Mobile's 3G network was quite good. Voices sounded clear and natural, with ample volume. Callers on the other end of the line were generally pleased as well.

Some Nexus One users have complained that their phones drop from 3G to EDGE, or lack a 3G connection altogether. While I never experienced that, I did have some difficulties with the T-Mobile network: Sometimes my Google account wouldn't load. And I also endured several failed attempts to upload image files to Picasa, due to a "network error."

The Nexus One isn't quite the game-changer people hoped it would be, though it certainly trumps other phones in performance, display quality, and speed.

The Motorola Droid continues to have a slight edge as the best Android phone because of its hardware keyboard. But upgrading the Nexus One's software keyboard and adding multitouch might change all that.

—Ginny Mies

★★★★½ **SUPERIOR**

Nexus One | HTC

Minus the software keyboard, this could be the best Android phone.

List: $180 with two-year T-Mobile contract; $530 unlocked

find.pcworld.com/64373

iBUYPOWER Recommends Windows® 7 Home Premium

NEW intel CORE i7 inside™
Faster. Smarter.

Grab Your Gear
PREPARE FOR BATTLE

GAMER PALADIN F725

- Intel® Core™ i7-920 Processor
- Intel® X58 Chipset Motherboard
- ATI Radeon™ HD 5750 1GB Video Card
- NZXT® Guardian 921 Gaming Case with NVIDIA Custom Painted Side Panel + 700W Power Supply
- Genuine Windows® 7 Home Premium
- High Definition Surround 3D Premium Sound

DVD±RW 22x | MEMORY 3GB CORSAIR DDR3-1333 | HARD DRIVE 500GB SATA-II | MOUSE | KEYBOARD | SPEAKERS

Components included with system

$1019

Intel Core™ i7-975 Processor Extreme Edition	$1809
Intel Core™ i7-950 Processor	$1319
Intel Core™ i7-920 Processor	$1019

GAMER PALADIN Q840

- Intel® Core™ 2 Duo Processor E7500
- Intel® P45 Chipset DDR3 Motherboard
- NVIDIA® GeForce™ GT 240 1GB Video Card
- Certified CPU Liquid Cooling System - Overclock Proof
- iBUYPOWER A235 Gaming Case + 700W Certified Power Supply
- Genuine Windows® 7 Home Premium
- High Definition Surround 3D Premium Sound

DVD±RW 22x | MEMORY 4GB CORSAIR DDR3-1333 | HARD DRIVE 500GB SATA-II | MOUSE | KEYBOARD | SPEAKERS

Components included with system

$769

Intel® Core™2 Extreme Processor QX9775	$2369
Intel® Core™2 Quad Processor Q9650	$1009
Intel® Core™2 Quad Processor Q8200	$819
Intel® Core™2 Duo Processor E8600	$949
Intel® Core™2 Duo Processor E7500	$769

Toll Free: 888-462-3899

iBUYPOWER

www.ibuypower.com

Intel, the Intel logo, Intel Core and Core Inside are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Top 10 Inkjet Multifunction Printers

LAB TESTED

New Web-enabled models from HP and Lexmark are pricey and quirky—but cool.

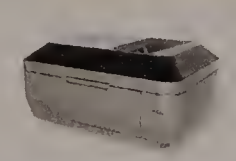
	MODEL	Rating	Performance	Features and specifications
1	Canon Pixma MX7600 $400 find.pcworld.com/60874	★★★★ VERY GOOD	• Text quality: Superior • Graphics quality: Superior • Tested speed: 7.2 ppm text/ 3.7 ppm graphics	• 28 ppm text • 23 ppm graphics • 4800-by-1200-dpi maximum true color resolution
	▸ Good speed, great print quality, and features galore make this printer worth its fairly high price; its feature set lacks only Wi-Fi.			
2	BEST BUY HP Photosmart Plus All-in-One $149 find.pcworld.com/63563	★★★★ VERY GOOD	• Text quality: Very Good • Graphics quality: Very Good • Tested speed: 8.9 ppm text/ 4.0 ppm graphics	• 30 ppm text • 28 ppm graphics • 4800-by-1200-dpi maximum true color resolution
	▸ A true bargain, the Photosmart Plus offers impressive speed and print quality for its cost, and it has a built-in Wi-Fi capability, too.			
3	HP Officejet Pro 8500 Wireless All-in-One $400 find.pcworld.com/62494	★★★★ VERY GOOD	• Text quality: Very Good • Graphics quality: Good • Tested speed: 10.7 ppm text/ 4.5 ppm graphics	• 35 ppm text • 34 ppm graphics • 4800-by-1200-dpi maximum true color resolution
	▸ A small office that wants it all can get it here: The Officejet Pro 8500 Wireless has a trove of features, and very inexpensive inks.			
4	HP Officejet 6500 Wireless All-in-One $199 find.pcworld.com/62945	★★★½ VERY GOOD	• Text quality: Very Good • Graphics quality: Very Good • Tested speed: 7.6 ppm text/ 3.5 ppm graphics	• 32 ppm text • 31 ppm graphics • 4800-by-1200-dpi maximum true color resolution
	▸ The Officejet 6500 Wireless is a midpriced model that offers solid performance, features, and print quality, with few compromises.			
5	Canon Pixma MP490 $100 find.pcworld.com/63413	★★★½ VERY GOOD	• Text quality: Superior • Graphics quality: Good • Tested speed: 6.3 ppm text/ 2.3 ppm graphics	• 8.4 ppm text • 4.8 ppm graphics • 4800-by-1200-dpi maximum true color resolution
	▸ The inexpensive MP490 is a surprisingly high-quality machine; however, steep black-ink costs are the tradeoff for its low initial price.			
6	HP Photosmart Premium Touchsmart Web All-In-One $400 NEW find.pcworld.com/63998	★★★½ VERY GOOD	• Text quality: Very Good • Graphics quality: Good • Tested speed: 7.8 ppm text/ 3.7 ppm graphics	• 33 ppm text • 32 ppm graphics • 9600-by-2400-dpi maximum true color resolution
	▸ The ability to access Web apps from your printer is intriguing, but this model's execution shows that there's still some work to be done.			
7	Lexmark Platinum Pro905 $399 NEW find.pcworld.com/63602	★★★½ VERY GOOD	• Text quality: Very Good • Graphics quality: Good • Tested speed: 7.0 ppm text/ 2.5 ppm graphics	• 33 ppm text • 30 ppm graphics • 4800-by-1200-dpi maximum true color resolution
	▸ Web capabilities and generous features make the Pro905 worth considering for a small office, though it's average in other respects.			
8	 Canon Pixma MX860 $200 find.pcworld.com/62466	★★★½ VERY GOOD	• Text quality: Very Good • Graphics quality: Good • Tested speed: 8.4 ppm text/ 2.2 ppm graphics	• 8.4 ppm text • 5.6 ppm graphics • 9600-by-2400-dpi maximum true color resolution
	▸ With the Pixma MX860, you get nice print quality plus Wi-Fi and automatic duplexing; its speed, however, is just average overall.			
9	HP Photosmart Premium Fax All-in-One $300 find.pcworld.com/62498	★★★½ VERY GOOD	• Text quality: Very Good • Graphics quality: Good • Tested speed: 11.3 ppm text/ 3.1 ppm graphics	• 33 ppm text • 32 ppm graphics • 9600-by-2400-dpi maximum true color resolution
	▸ Well equipped for both photo printing and light office use, with lots of connectivity options, this MFP is capable—but expensive.			
10	Epson Stylus NX515 $130 find.pcworld.com/63232	★★★½ VERY GOOD	• Text quality: Good • Graphics quality: Good • Tested speed: 18.4 ppm text/ 5.1 ppm graphics	• 36 ppm text • 36 ppm graphics • 5760-by-1440-dpi maximum true color resolution
	▸ Students and home users will like this model's speed, but its high ink costs, flimsy trays, and skimpy documentation are drawbacks.			

CHART NOTES: Ratings are as of 1/5/10. Speeds are in pages per minute (ppm); resolutions are in dots per inch (dpi).

MORE ONLINE Visit find.pcworld.com/63938 to see in-depth reviews, full test results, and detailed specs for all MFPs on this chart.

Don't Overpay On Your Ink & Toner This Year

Cartridge World's
Quality Printer Cartridges
Save You Money & The Environment

1,700 Locations Worldwide

To find a store near you call:

888.99.REFILL

or visit www.cartridgeworldusa.com

Why Pay More To Print?

Cartridge World®

B&N's Nook: Tantalizing but Unfinished E-Reader

THE BARNES & Noble Nook evokes images of curling up in a corner with a good book near a cozy fire. But not everything about this $259 e-book reader makes for a comfy reading experience.

The Nook most directly competes with the Amazon Kindle 2. The two have similar size and pricing, and they offer direct-from-device wireless access to each bookseller's e-book store.

Despite its progressive design choices and clever navigation tools, the Nook feels like a first-generation product in need of further refinement down the road.

An Innovative Touch

The Nook's most innovative feature is a touchscreen strip below the 6-inch E-Ink electronic paper display. It obviates the need for a keyboard, multipurpose buttons, or other navigational aids. The touchscreen also provides an on-screen keyboard for data input (such as for searching or for adding notes), as well as book-cover thumbnails that you can scroll through.

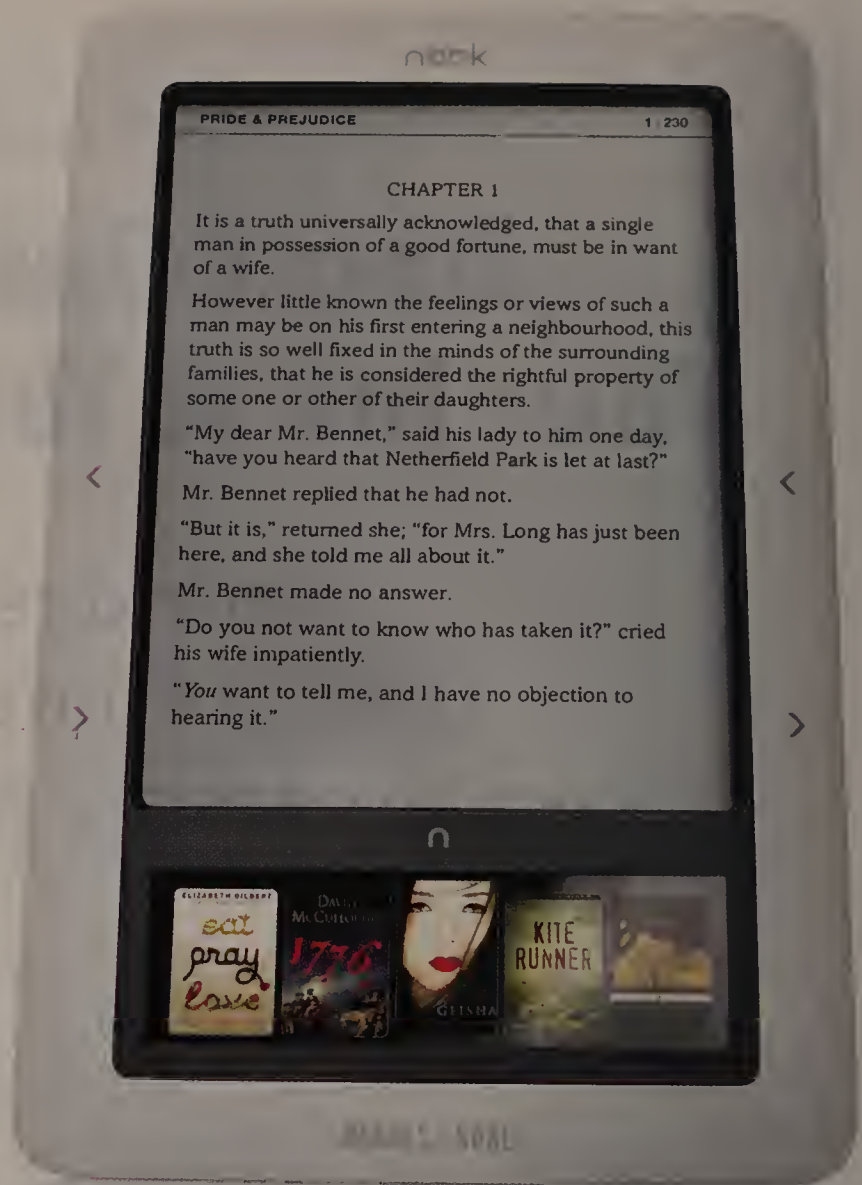
With its launch software, the Nook stumbles in a couple of ways. B&N has said that it plans to fix some of the performance issues via a firmware update; the update was not available at the time of this review's writing.

Waiting for a page to redraw itself on the Nook's E-Ink screen can be a serious test of your patience. (It took 14 seconds to open and format the book *Up in the Air*, for instance—like an eternity with the Nook in your hand.)

And I thought that putting navigation controls for pages on the LCD screen instead of on the E-Ink screen produced an odd disconnect. When browsing my book library, I was often stymied by having to put my finger just so on the touchscreen and then having to look up as my selection moved, for example. Such navigation suffered from lag, too.

The Nook's LCD screen does make it easy to jump into the type of content you want, and you get the sense that no important features are buried in a hidden menu item. I also appreciated the page-forward and page-back navigation buttons.

One minus: Though you get a headphone jack for listening to MP3s, you get no support for audiobooks.



THE NOOK HAS a navigation touchscreen under the reading screen.

Multiplatform E-Books

Barnes & Noble has taken several steps to encourage potential customers to buy into its e-reader universe. For one thing, you can purchase books for reading on multiple device platforms—PC, Mac, iPhone, and BlackBerry (and soon, Android). For another, you can lend friends the books you buy, simply by sending the book to a user's e-mail address. But you can lend a book only once, and for two weeks, so lend wisely.

The Nook has Wi-Fi and runs the Google Android mobile operating system, which throws open the door for customization and other enhancements.

Though the Nook could emerge as a worthy competitor to the Kindle 2, I can't confidently recommend it, at least for now. Things may change with future fixes.

—Melissa J. Perenson

★★★ GOOD

Nook | Barnes & Noble

Innovative e-reader has problems that may be fixable in the future.

List: $259

find.pcworld.com/64333

HEAD-TO-HEAD

The Big Three E-Readers

ALL THREE OF the major e-readers—the Amazon Kindle, the Sony Reader Touch Edition, and the Barnes & Noble Nook—have 6-inch E-Ink displays, but their cases are substantially different. The Nook is a bit taller and wider than the Sony Touch Edition, and a tad smaller than the Kindle—and at 0.5 inch thick, it's relatively chunky for this group. It's also the least posh-feeling e-reader, being unapologetically encased in plastic while both the Kindle and the Sony are partly clad in metal.

For a more-detailed comparison of these e-readers' specs, see the chart on the second page of find.pcworld.com/69379.

—Harry McCracken

PHOTOGRAPH: ROBERT CARDIN

Power up to win 1 of 7 APC BR700G Battery Back-UPS units (a $130 value)!

Key Code
r178w

www.apc.com/promo
888-289-APCC x8290
FAX: 401-788-2797

Name: _____ Title: _____

Company: _____

Address: _____ Address 2: _____

City/Town: _____ State: _____ Zip Code: _____ Country: _____

Phone: _____ Fax: _____

e-mail: _____

☐ **Yes! Send me more information via e-mail and sign me up for the Uptime e-mail newsletter. Key Code: r178w**

What type of availability solution do you need? ☐ UPS: 0–16kVA (Single-phase) ☐ UPS: 10–80kVA (3-phase AC) ☐ UPS: 80+ kVA (3-phase AC) ☐ DC Power ☐ Networking Enclosures & Racks ☐ Air Conditioning ☐ Cables/Wires ☐ Monitoring & Management ☐ Line Conditioning ☐ Mobile Protection ☐ Surge Protection ☐ UPS Upgrade ☐ Don't Know

Purchase time frame? ☐ < 1 Month ☐ 1–3 Months ☐ 3–12 Months ☐ >1 Year ☐ Don't Know

You are (check one) ☐ Home/Home Office ☐ Business (<1000 employees) ☐ Large Corporation (>1000 employees) ☐ Government, Education, Public Organization ☐ APC Sellers and Partners

APC® by Schneider Electric

©2010 Schneider Electric, All Rights Reserved. Schneider Electric, APC, Back-UPS, and Uptime are owned by Schneider Electric, or its affiliated companies in the United States and other countries. e-mail: esupport@apc.com • 132 Fairgrounds Road, West Kingston, RI 02892 USA 998-2516a

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT # 36 WEST KINGSTON RI

POSTAGE WILL BE PAID BY ADDRESSEE

APC
ATTENTION CRC: r178w
132 FAIRGROUNDS RD
PO BOX 278
WEST KINGSTON RI 02892-9920

Unbeatable power protection now beats energy costs, too.

Only APC Back-UPS delivers unsurpassed power protection *and* real energy savings.

Today's cost-saving Back-UPS

For years you've relied on APC Back-UPS to protect your business from expensive downtime caused by power problems. Today, the reinvented Back-UPS does even more. Its highly efficient design noticeably reduces energy use, so you start saving money the minute you plug it in. Only APC Back-UPS guarantees to keep your electronics up and your energy use down!

Unique energy-efficient features

Power-saving outlets automatically shut off power to unused devices when your computer and peripherals are turned off or on standby. Automatic voltage regulation (AVR) adjusts the under-voltages and overvoltages without using the battery. With our patent-pending AVR bypass, the transformer kicks in only when needed and automatically deactivates when power is stable. Plus, APC's highly efficient designs reduce power consumption when power is good and extend runtimes when the lights go out. Together, these power-saving features eliminate wasteful electricity drains, saving you about $40-50 a year. And managing today's Back-UPS couldn't be easier thanks to an integrated LCD that provides diagnostic information at your fingertips.

Trusted insurance for all your business needs

The award-winning Back-UPS provides reliable power protection for a range of applications: from desktops and notebook computers to wired and wireless networks to external storage. The reinvented APC Back-UPS is the trusted insurance you need to stay up and running and reliably protected from both unpredictable power and energy waste!

Keep your electronics up and your energy use down!

Back-UPS models are available with the features and runtime capacity that best suit your application, and many models have been designed with power-saving features to reduce costs.

The High-Performance Back-UPS Pro Series

High-performance Back-UPS Pro units deliver cost-cutting, energy-efficient features. Power-saving outlets automatically shut off power to unused devices when your computer and peripherals are turned off or on standby, eliminating costly electricity drains. *(BR 700G shown above)*

The energy-efficient ES 750G

The ES 750G boasts innovative power-saving outlets, which automatically shut off power to controlled outlets when the computer plugged into the host outlet is deemed asleep, eliminating wasteful electricity drains.

- 10 Outlets • 450 Watts / 750 VA
- 70 Minutes Maximum Runtime
- Coax and Telephone/Network Protection

The best-value ES 550G

The ES 550G uses an ultra-efficient design that consumes less power during normal operation than any other battery backup in its class, saving you money on your electricity bill.

- 8 Outlets • 330 Watts / 550 VA
- 43 Minutes Maximum Runtime
- Telephone Protection

Enter to win one of seven Back-UPS BR 700G (a $130 value)!

Visit www.apc.com/promo Key Code r178w • Call 888-289-APCC x8290 • Fax 401-788-2797

APC by Schneider Electric

©2010 Schneider Electric, All Rights Reserved. Schneider Electric, APC, Legendary Reliability, and Back-UPS are owned by Schneider Electric, or its affiliated companies in the United States and other countries.
e-mail: esupport@apc.com • 132 Fairgrounds Road, West Kingston, RI 02892 USA • 998-2510

Top 10 Cell Phones

LAB TESTED

The Motorola Droid, an Android phone, snatches first place from Apple's iPhone 3GS.

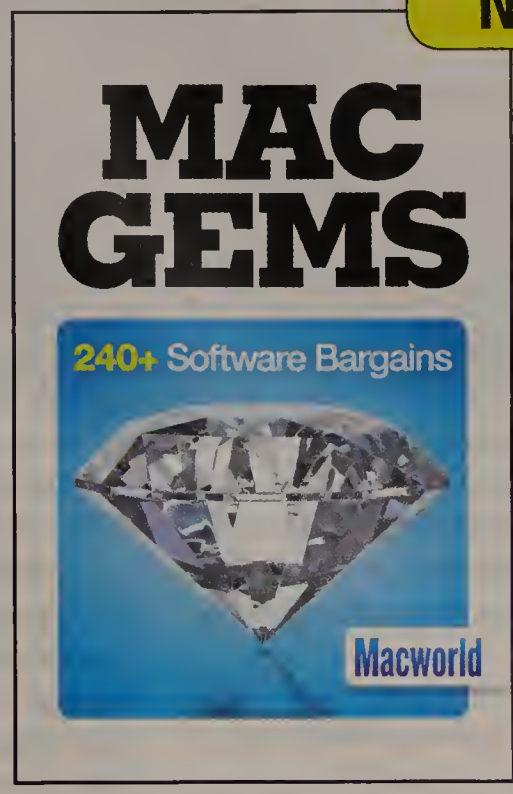
	MODEL	Rating	Features and specifications	Performance
1	Motorola Droid $200 NEW find.pcworld.com/64263	★★★★½ SUPERIOR	• Carrier: Verizon • Form factor: Slide • Weight: 6.0 ounces • Camera resolution: 5.0 megapixels	• Solid construction • Keyboard is a bit shallow • Superb suite of video and audio features
	▸ The first Android 2.0 phone has a strong suite of Web features and a stunning 3.7-inch display; the shallow keyboard may irk some users.			
2	Apple iPhone 3GS $300 find.pcworld.com/63910	★★★★½ SUPERIOR	• Carrier: AT&T • Form factor: Candy bar • Weight: 4.8 ounces • Camera resolution: 3.0 megapixels	• Sophisticated design • Extremely responsive touchscreen • Excellent video and music playback and features
	▸ Performance enhancements distinguish the iPhone 3GS—an otherwise evolutionary step up—from its previous iterations.			
3	BEST BUY Motorola Cliq $150 find.pcworld.com/64261	★★★★½ SUPERIOR	• Carrier: T-Mobile • Form factor: Slide • Weight: 5.6 ounces • Camera resolution: 5.0 megapixels	• High-quality design • Comfortable keyboard • Audio and video are middle of the road
	▸ The beautifully designed Motorola Cliq is a social butterfly's dream phone, but others may find the MotoBlur user interface overwhelming.			
4	RIM BlackBerry Bold 9700 $200 NEW find.pcworld.com/64262	★★★★½ SUPERIOR	• Carrier: T-Mobile/AT&T • Form factor: Candy bar • Weight: 4.2 ounces • Camera resolution: 3.2 megapixels	• Most stylish BlackBerry to date • Ergonomic keyboard • Good video and audio quality
	▸ The best BlackBerry available, the Bold 9700 packs a multitude of features into a sophisticated, slimmed-down design.			
5	T-Mobile MyTouch 3G $150 find.pcworld.com/63912	★★★★½ SUPERIOR	• Carrier: T-Mobile • Form factor: Candy bar • Weight: 4.1 ounces • Camera resolution: 3.2 megapixels	• Lightweight and slim design • Touch keyboard isn't perfect • Excellent video and audio features
	▸ The T-Mobile MyTouch 3G is a big improvement over its predecessor (the G1); the lack of a physical keyboard is a minus, though.			
6	Palm Pre $150 find.pcworld.com/63258	★★★★☆ VERY GOOD	• Carrier: Sprint • Form factor: Slide • Weight: 4.7 ounces • Camera resolution: 3.0 megapixels	• Sleek, ergonomic design • Keyboard is small and flimsy • Gorgeous video and audio applications
	▸ The Pre's WebOS software is touch-friendly and fun, but the cramped QWERTY keyboard detracts from the phone's usability.			
7	Samsung Behold II $230 NEW find.pcworld.com/64264	★★★★☆ VERY GOOD	• Carrier: T-Mobile • Form factor: Candy bar • Weight: 4.2 ounces • Camera resolution: 5.0 megapixels	• Pocketable and light • Touch keyboard is small • Video looks terrific on OLED display
	▸ With a gorgeous AMOLED display and an excellent camera, the pricey Samsung Behold II will appeal to multimedia junkies with deep pockets.			
8	RIM BlackBerry Tour 9630 $150 find.pcworld.com/63914	★★★★☆ VERY GOOD	• Carrier: Verizon • Form factor: Candy bar • Weight: 4.6 ounces • Camera resolution: 3.2 megapixels	• Slick design • Superb keyboard • Okay multimedia features
	▸ The BlackBerry Tour entices with an ergonomic keyboard and a gorgeous display; its lack of Wi-Fi disappoints, however.			
9	Samsung Omnia II $200 NEW find.pcworld.com/64266	★★★★☆ VERY GOOD	• Carrier: Verizon • Form factor: Candy bar • Weight: 4.3 ounces • Camera resolution: 5.0 megapixels	• Stylish, minimalist design • Touch keyboard has some flaws • Very good music and video features
	▸ With an eye-catching design and its multimedia features, the Omnia II is a solid Windows phone, but it has sluggish performance.			
10	HTC Droid Eris $100 NEW find.pcworld.com/64035	★★★★☆ VERY GOOD	• Carrier: Verizon • Form factor: Candy bar • Weight: 4.2 ounces • Camera resolution: 5.0 megapixels	• Eye-catching design • Touch keyboard takes some practice • Solid music and video features
	▸ If you can live without a hardware keyboard, the HTC Droid Eris is an affordable and feature-packed alternative to the Motorola Droid.			

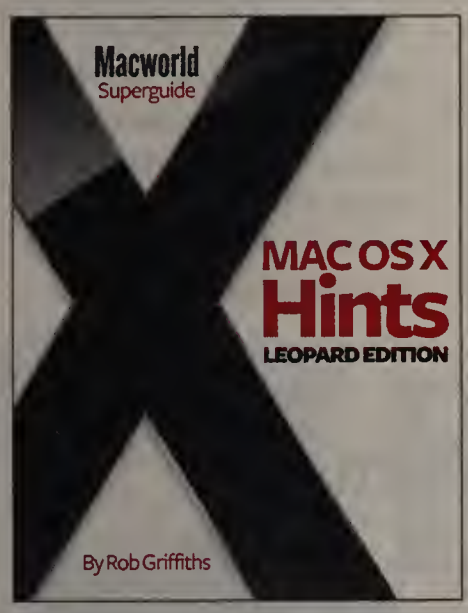
CHART NOTE: Ratings are as of 12/22/09.

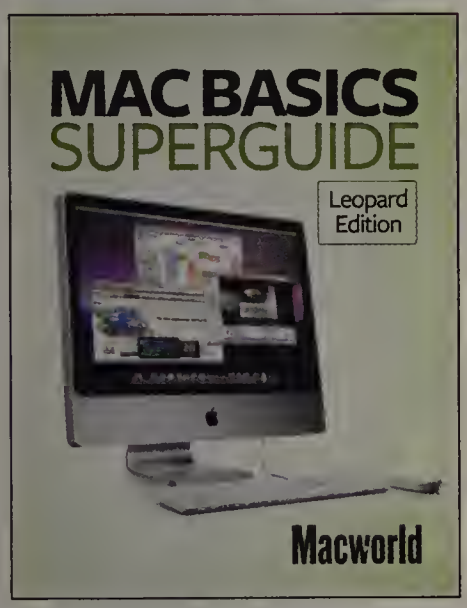
MORE ONLINE Visit find.pcworld.com/63260 to see in-depth reviews, full test results, and detailed specs for all cell phones.

Macworld Superguides

NEW!







Macworld's Superguide Series

These handy books are produced by the editors at Macworld. Packed with practical how-to's, the best tricks, in-depth features, trouble-shooting advice, tips and more.

Macworld Superguides are available in 3 convenient formats: 1) Downloadable PDFs: Get immediate access. 2) Printed Book: Order a handy, full-color printed book on high-quality paper. 3) PDF on CD-ROM: Don't want to download the PDF, get it on CD-ROM.

ORDER NOW!

www.macworld.com/superguide

Roku HD-XR Excels at Streaming Media to TV

THE COMPACT HD-XR streams video from Netflix and other services.

MEDIA PLAYERS that relay Internet video to TVs are increasingly common—but models that do it well and reliably over Wi-Fi to HDTVs are less so. That's why the $130 Roku HD-XR is a gem: It delivers high-def content from several Net services.

The 5-by-5-by-2-inch box supports 802.11n wireless on either the 2.4GHz band or the less interference-prone 5GHz band. It has HDMI, component, composite, S-Video, and stereo and optical audio outputs.

I had no trouble putting it on my 5GHz 802.11n network and later on a 2.4GHz network. It also worked well over a wired HomePlug AV powerline switch.

Once the network is running, you can set up accounts on supported services, via an Internet-connected PC. With new units, you first set up a Roku Channel Store account. Older units, like the one I tried, have Amazon, MLB.TV, and Netflix preloaded; you'll need the Channel Store to get additional services (you can add up to ten of them).

Linking my Netflix account to the HD-XR took just seconds. Selecting a video initiated a few seconds' worth of buffering, after which I watched several videos in close-to-flawless 720p HD with good surround sound.

In the past I've had problems streaming music, let alone video, over 802.11n on the 2.4GHz band—my loft is within range of two dozen 2.4GHz networks. Yet the Roku worked well, pausing the video only once to adjust for bandwidth.

As TV sets and Blu-ray players add support for Net video, you might not need a Roku box to get the content that it supports. But the HD-XR offers a reasonably priced and reliable option.

—Yardena Arar

★★★★½ SUPERIOR

Roku HD-XR | Roku

Box does a superb job of delivering Internet video, via ethernet or Wi-Fi.

List: $130

find.pcworld.com/64278

Samsung Omnia II Specializes in Multimedia

WITH IMPRESSIVE specs, an attractive design, and a gorgeous 3.7-inch WVGA AMOLED touch display, the Samsung Omnia II ($200 with a two-year Verizon contract) is a head-turner. But its performance disappoints.

Measuring 4.7 by 2.4 by 0.5 inches and weighing 4.8 ounces, the Omnia II sports rounded corners, brushed-metal details, and a smooth red-and-black back cover. It offers 8GB of internal memory and 16GB of expandable memory through a microSD card (sold separately).

Call quality was consistently good—with little noise or distortion—over Verizon's 3G network. I heard a faint hiss on just one call.

The delay between my typing on the touchscreen keyboard and the appearance of text on screen was distracting. On the bright side, the Omnia II also has Swype technology, which lets you type faster with one motion across the keyboard; it takes practice, but it's pretty nifty.

The widget-based TouchWiz 2.0 interface runs atop Windows Mobile 6.5. The task of arranging widgets can be tedious, since the screen is not all that responsive—you have to press fairly hard to move a widget. In my tests, I experienced one crash; eventually I had to shut down and restart the phone to get it to work. If you encounter a similar crashing problem, consider using the Omnia II without TouchWiz 2.0.

THE OMNIA II is an attractive Windows Mobile smartphone.

For music, you can use Windows Media Player or the TouchWiz player. You'll have to use your own headphones. Music over my high-quality headphones was very good; on the external speakers, it sounded a bit flat.

Video looked great on the large display. Colors were vivid and accurate, motion was smooth, and I saw just a little blurriness in some clips.

Camera quality was mostly quite good, indoors and out. The camera captured detail well, taking close-ups without blurring or pixelation.

—Ginny Mies

★★★★ VERY GOOD

Omnia II | Samsung

Eye-catching phone has impressive specs but sluggish performance.

List: $200 (with two-year contract)

find.pcworld.com/64279

PowerShot SX20 IS: A Near-Perfect Megazoom

IF YOU'RE SHOPPING for a megazoom camera, the $400 Canon PowerShot SX20 IS should be near the top of your list. It has a massive 20X-optical-zoom lens, a 12.1-megapixel sensor, 720p HD video shooting, ISO equivalency settings up to 3200, and a flip-out LCD.

★★★★½ SUPERIOR

PowerShot SX20 IS | Canon

Versatile, powerful megazoom's main failing is action photography.

List: $400

find.pcworld.com/64285

The 20X zoom ranges from a slightly wide-angle 28mm to a deep 560mm telephoto. You also get a complete set of exposure options, including full auto, program mode, aperture priority, shutter priority, manual, and more than a dozen scene modes.

For video, it has a dedicated record button. You can trim the video's start and end points in-camera, and the included HDMI port lets you play the video on a TV.

In PCWorld Labs tests, it earned a score of Superior, showing excellence in overall image quality, sharpness, color accuracy, and lack of distortion. Its battery life also rated as Superior, as on four AA batteries it fired off 500 shots (the maximum amount of shots we test for).

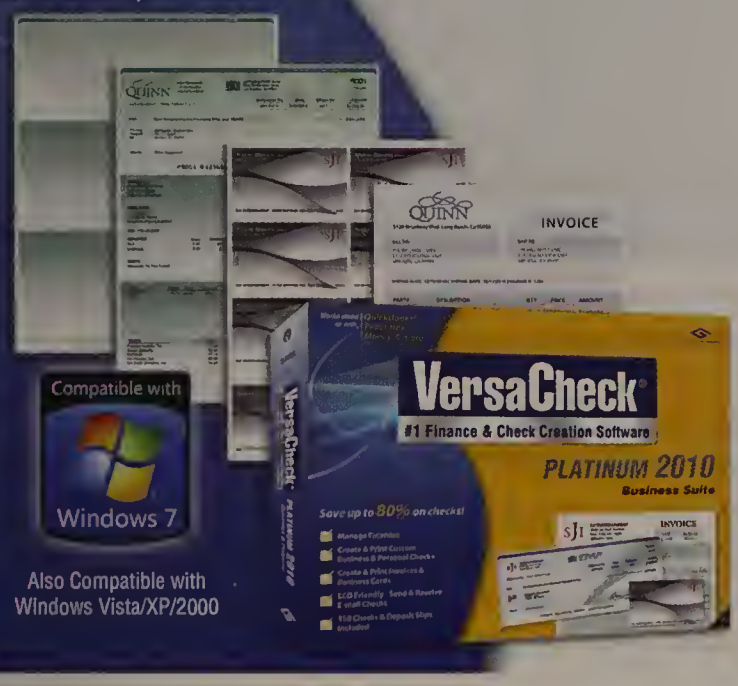
The SX20 IS isn't ideal for fast-action photography: The best it can manage is a little less than a second between shots, which is simply too slow. Nonetheless, the deep zoom covers almost any situation, and the built-in flash is respectably powerful.

—Dave Johnson

CANON'S SX20 IS has a 20X optical zoom, plus HD video recording.

2010 TOP TEN REVIEWS GOLD AWARD

srp $99.99
5 User $149.99



VersaCheck®

#1 Finance & Check Creation Software

PLATINUM 2010 Business Suite

Save 50-80% or more on checks!

- Manage Finances
- Create custom personal & business checks and save 80% or more
- Accept payments online, by fax or over the phone
- Import and Export data files
- Compatible with QuickBooks®, Peachtree, Money & more
- Use with any inkjet or laser printer
- Replace Credit Card use with zero-fee payments by VersaCheck®
- **NEW!** ProVision™ Payment Manager*
  - No more postage cost & hassle!
  - Send & receive checks instantly by e-mail

*Service fee applies

Visit **VersaCheck.com/pc1** or call **877-872-1191**

BONUS

Use 'Promo Code' VCSP at checkout and get a VersaCheck® Starter Pack FREE $19.99 Value

Norton Ghost 15: Capable Imaging and Backup

SYMANTEC'S $60 Norton Ghost 15 substantially improves one of the most capable disk-imaging programs on the market. It's a powerful tool for anyone serious about backup and recovery. For the average user, Windows 7 support, Blu-ray disc burning, and a feature called "cold imaging" are the most intriguing new features.

★★★★☆ VERY GOOD

Norton Ghost 15 | Symantec

Powerful disk-imaging program has a few usability annoyances.

List: $60

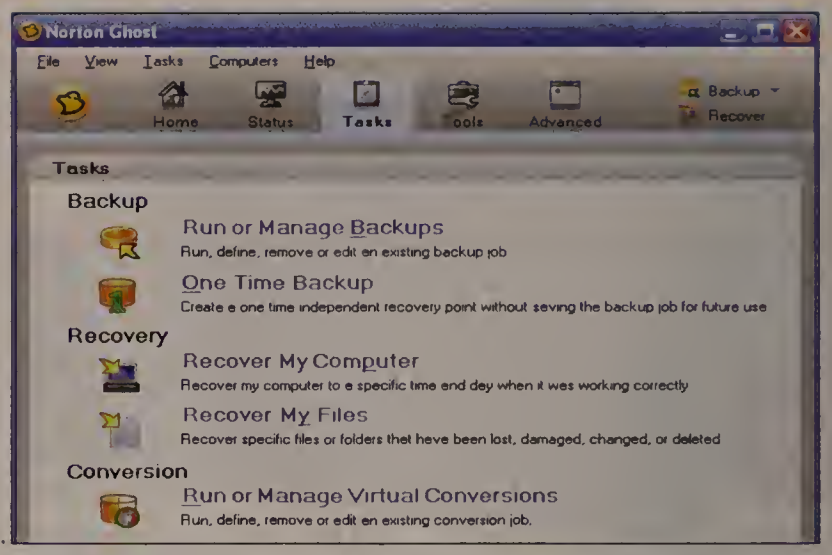
find.pcworld.com/64374

Though most imaging apps have offered cold imaging—the ability to create a backup image using the recovery CD—for years, it's certainly a welcome addition here. Ghost 15's version, which copies only entire partitions, performed quickly and perfectly in my tests. One notable annoyance: You must enter the program's serial number each time you use the feature. Recovery doesn't require the serial number.

The only drawbacks of Ghost relate to using the Windows Preinstallation Environment (PE)–based recovery CD, which has some limitations. It's slow to boot, but more significantly it requires 1GB of RAM. While that may not seem like a lot these days, plenty of PCs top out at 512MB or less.

Ghost 15 is powerful and reliable, and its PE-based recovery CD usually works on the few machines where Linux-based recovery CDs do not. For IT managers, its conversion of full backups to virtual machines is top-notch, as well. For users who mostly stay inside Windows, Ghost 15 should provide stiff competition for Acronis True Image. However, the Acronis recovery disc's faster boot time and lighter memory requirements make it far better for cold imaging.

—Jon L. Jacobi



NORTON GHOST 15 is a reliable utility for backup and recovery.

HDR PhotoStudio Creates Vivid, Detailed Images

TODAY'S DIGITAL cameras and scanners can capture an amazing array of colors, highlights, and shadows. Editing, however, reduces the amount of data to 8-bit or 16-bit, thereby losing much of the visual dynamics in the original pictures. That's why HDR (high dynamic range) images have become more popular. And Unified Color Technologies' HDR PhotoStudio, a $150 32-bit image editor, lets you tap the full potential of HDR images.

★★★★½ SUPERIOR

HDR PhotoStudio

Unified Color Technologies

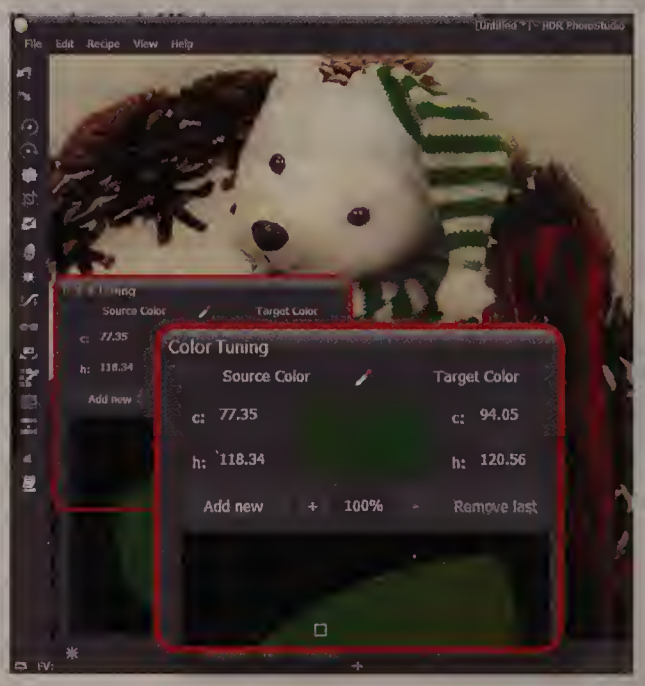
Accessible 32-bit image editor lets you create in-depth photos.

List: $150

find.pcworld.com/64375

Typically, you combine several captures of a scene, each taken at a different exposure, to obtain as much data as possible for the final merged result. HDR PhotoStudio can import RAW file formats, as well as TIFF and JPEG.

Our merges did not automatically produce a beautiful image, but the program has nice tools for tweaking the color, exposure, and focus while using the full 32-bit data. And since you are dealing with so much data, editing brightness and contrast don't affect color or tonality, and vice versa.



IN HDR PHOTOSTUDIO you can make fine adjustments to color, as well as to other aspects of an image.

We found the interface accessible. The tool set is limited to exposure, color, and focus controls, but each provides fine-detail options. One unique tool is the Veiling Glare adjustment; it reduces the effect of light reflections, which can drastically cut down on contrast when several different exposures are combined. The app can save your editing as a "Recipe" (a macro) for use on other images, too.

Our final image had impressive depth of detail in its highlights, midtones, and shadows, with great color tonality and saturation. And unlike some HDR images we've seen, it looked natural rather than heightened.

—Sally Wiener Grotta and Daniel Grotta

Muvee Reveal 8 Creates Impressive Movies

MUVEE'S REVEAL 8 ($80) is the easiest movie production tool I've ever used. It doesn't provide the granular control that pros (and aspiring pros) desire, but it has more functions than a first glance suggests. For anyone who wants to make something good-looking in a hurry, it's more than powerful enough.

★★★★ VERY GOOD

Reveal 8 | Muvee

This template-driven utility makes producing great movies simple.

List: $80

find.pcworld.com/64286

By default, the clean main screen limits you to choosing and setting the order of photos and video, picking a style, adding music, and previewing the results. You can reach simple editing functions by right-clicking on individual media. The styles are the key: Using one of ten stylistic templates, Reveal 8 assembles your components into a cohesive production.

In the settings you can record narration, type in credits, and provide a logo that will appear as a watermark. Most of the other settings address broader issues, such as whether to fit the photos and video to the length of the music, or to repeat the music to match the length of the visuals. About the only firm time interval you can set is how long a photo will display (1 to 10 seconds).

REVEAL 8'S CLEAN main screen belies the power of this program.

The results in my tests were nothing short of excellent. A short movie using the Cube Twist style impressively rotated and pulsed with the background music. The other styles delivered satisfying results as well.

Owners of version 7 of Muvee Reveal and recent versions of AutoProducer can upgrade to Reveal 8 for less than the full $80 price.

—Jon L. Jacobi

iProlog CORPORATION

inkgard™

INK & TONER SAVING SOFTWARE

Save! 75% Ink and Toner

SMART INK CONTROL

Inkjet & laser printer

Compatible with Windows 7

Also Compatible with Windows Vista/XP/2000

Yes You Can...

Print for 75% less!

Inkgard™ is the easy download that optimizes image quality for maximum print yield and... is fun to use!

- Make 1 cartridge last as long as 4
- Maintain optimum print quality
- Works with any inkjet and laser printer
- BONUS: Powerful PDF generator
- **Multi-user Network Edition** now available!

Only $9.99 per year!

Visit **www.inkgard.com** for details or call 858-217-3130

Save even more with Inkgard™ cartridges for maximum yield and quality

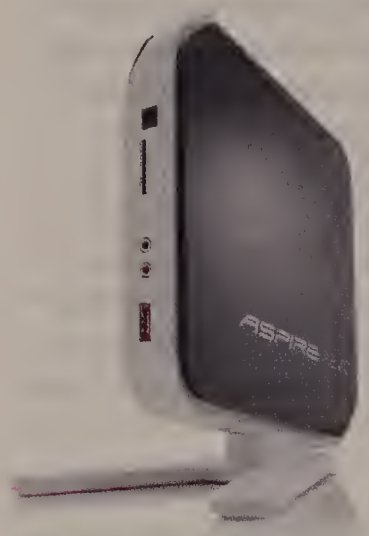
HP, Canon, Dell, Epson, Lexmark and more

FREE Inkgard!

Get Inkgard™ **FREE** with purchase of any ink or toner cartridge!

Space-Saving Desktops Carry Netbook Parts

TAKE A SILENT, low-power desktop and stuff it with netbook parts, and what do you get? A nettop. These tiny PCs provide a fraction of a standard desktop system's power at a fraction of its size and cost. We tested new nettops from Acer and Lenovo. We also tried an



THE ACER AspireRevo R3610 is good for a home theater setup.

Asus all-in-one desktop that has netbook innards, including an Atom CPU and nVidia Ion integrated graphics.

AspireRevo R3610

The $320 Acer AspireRevo R3610 is serviceable for Web browsing and e-mail. Blessed with a compact size, HDMI, 1080p video playback, and nVidia Ion graphics, it also has media-center potential.

On HD video, Ion trumps typical integrated graphics from Intel. Streaming HD Web video was shaky until we installed the Flash Player 10.1 Beta, which beefs up playback by enlisting the help of the Ion chip. The R3610's support for 7.1 surround sound (via S/PDIF coaxial output), 802.11n Wi-Fi, and gigabit ethernet round out its home-theater capabilities. The Windows 7 Home Premium OS includes Media Center, but you'll need to use a USB TV tuner or capture stick for DVR functions.

In WorldBench 6, the PC scored a paltry 36. For everyday tasks, though, Windows 7 runs well on the 1.6GHz Atom 330 dual-core CPU, 2GB of DDR2-800 memory (upgradable to 4GB), and 5400-rpm hard drive. We saw a performance hit when multitasking at 1900 by 1200 on a 32-inch HDTV; you'll get better mileage if you turn off some of Win 7's visual effects.

Though the R3610 lacks an optical drive, it has six USB ports, a media card reader, and a high-speed eSATA port. The wireless keyboard and mouse are fine for casual use. The range is great—they're excellent for couch surfing.

IdeaCentre Q100

On its tiny, $400 IdeaCentre Q100, Lenovo had to make quite a few sacrifices—so many, that you may be better off buying a netbook.

The 1.6GHz Atom N230 CPU helps the box stay small and cool, but achieves little

LENOVO'S Q100 IS very compact, but features are sparse.

ASUS'S ET2002 HAS multiple networking options, plus HDMI.

else. The modest amount of RAM (1GB DDR2-667) makes common tasks feel sluggish. While the 160GB hard drive isn't a lot of space, it's standard for this type of system.

With a WorldBench 6 mark of 36, the Q100 tied the Acer R3610. But the big problem is missing features. Lenovo did add a gigabit ethernet port. With no optical drive on the PC, however, you'll have to buy an external one; don't forget to grab a mouse and a keyboard, too (neither is included). You can connect only a VGA monitor—no HDMI, no living-room entertainment. And you'll also find no external options save for the six USB ports.

Eee Top ET2002

Asus's $600, 20-inch Eee Top ET2002 is the first all-in-one PC we've seen that uses nVidia Ion graphics. But with a dual-core Atom N330 CPU, 2GB of RAM, and Windows 7 Home Premium, it received a score of only 37 in WorldBench 6—slower than some identically priced all-in-one systems.

Its features are decent, including 2GB of RAM, 320GB of storage, Windows 7 Home Premium, a DVD writer, and an awesome collection of networking options, such as support for 802.11n Wi-Fi and gigabit networking.

One big issue is display quality. The color saturation was lacking, leaving vibrant scenes dull and muted. And the dark-heavy contrasts gave scenes a faded look.

Though the PC's array of six USB ports and a multiformat card reader is a bit of a yawn, Asus did include an HDMI input. In addition, the mouse and keyboard, while generic, are wireless.

Among budget all-in-one PCs, the ET2002 holds its own due to its network connections and HDMI. But it definitely isn't a top choice.

—Nate Ralph and David Murphy

★★★☆☆ **GOOD**

AspireRevo R3610 | Acer

Nettop with Ion graphics and HDMI output does well as a media center.

List: $320

find.pcworld.com/64287

★★½☆☆ **FAIR**

Eee Top ET2002 | Asus

Ion-based all-in-one PC stumbles in performance and display quality.

List: $600

find.pcworld.com/64219

★★☆☆☆ **FAIR**

IdeaCentre Q100 | Lenovo

Supersmall PC's omissions make a netbook seem like a better option.

List: $400

find.pcworld.com/64288

PHOTOGRAPHS: ROBERT CARDIN

ViewSonic MovieBook: Low Price, Wrong Design

PRICED AT $130, the ViewSonic VPD400 MovieBook HD media player is far more affordable than the $230, 16GB iPod Touch or the $200, 16GB Zune HD; but unlike them it lacks a touchscreen and Wi-Fi, and its design isn't the slickest.

Available in black, white, or pink, the plastic VPD400 sports a 4.3-inch display. All the playback and navigation controls sit at the top of the unit. The bottom spine houses the on/off switch. The left spine has the power-adapter port, a speaker, and a micro-SD card slot. The right edge has a 3.5mm headphone jack, an HDTV port, another speaker, a microphone, and the volume rocker.

Navigation via the buttons is a bit tricky (there's no four-way directional pad or touch-wheel). Getting the hang of moving through the menu without tilting the player to identify the buttons I was pressing took me a while. On this device, you need to see what you're doing.

THE MOVIEBOOK HD'S display looks big but isn't a touchscreen.

The user interface has six main categories—Settings, Video, Music, Photo, Voice Recorder, and EBook—each represented by a large icon. But having to press the buttons over and over again to move around gets old fast.

The VPD400 supports MP3, WMA, WAV, FLAC, APE, and OGG audio formats. You can also choose different playback modes, such as Pop, Classical, or Rock. The player doesn't support album art, though the large screen would showcase it nicely.

Sound quality was good, but was better when I used my own higher-quality headphones than via the included earbuds or speakers.

The VPD400 supports a large range of video file types: AVI, RM/RMVB, FLV, MP4, PMP, MPG, VOD, DAT, H.264, and H.263. It successfully handled just about everything I threw at it, except MOV (QuickTime) files. Quality wasn't always consistent, though. The player sometimes struggled when dealing with fast motion.

As a photo viewer, voice recorder, and e-book reader, the VPD400 performs well.

While not everyone needs Wi-Fi or apps with their player, you'll sorely miss having a touchscreen on this ViewSonic device. Still, if you can tolerate its limitations, the VPD400 is a perfectly capable, affordable player—just don't plan on watching any QuickTime videos on it.

—Ginny Mies

★★★☆☆ GOOD

VPD400 MovieBook HD
ViewSonic
Inexpensive portable media player makes some sacrifices in design.
List: $130
find.pcworld.com/64331

Haier's Video MP3 Player for the Gym

THE HAIER SPORT Video HHS1A-2G MP3 Player is a smooth, water-resistant device with a 2GB capacity and nifty features for workout-aholics. It's lightweight, with cool features such as a pedometer, a stopwatch, and video playback (though watching video on its tiny screen seems a bit pointless).

The HHS1A-2G could be slippery when the going gets sweaty, so the accompanying armband is a plus. The player is about 2 inches high by 1 inch wide; the 128-by-64-pixel OLED screen is about 1 inch (measured diagonally). Controls are fairly intuitive. USB and headphone jacks are at the bottom. The smooth buttons were sometimes a bit hard to press, especially during a workout.

HAIER'S TINY MP3 player for workouts holds up to 500 songs.

Audio sounded good over the included in-ear headphones. You can add songs by dragging and dropping them in Windows Explorer. Supported file formats include MP3, WAV, and WMV.

The package from Haier includes a USB 2.0 cable, media-converting software, and 35 free song downloads. Haier says that the player can store up to 500 songs.

Bottom line: This is a decent player for working out with, but having so many features in such a tiny device seems excessive.

—Sarah Jacobsson

★★½☆☆ FAIR

Sport Video HHS1A-2G | Haier
Good for use during workouts, but its screen is too small for videos.
List: $50
find.pcworld.com/64332

Energizer Pack Offers Extra Power

THE $150 ENERGIZER Energi To Go XP18000, developed in partnership with XPal, is an extremely handy battery pack.

Some packs I've tried are too heavy or bulky; others are slim but limited in application. Measuring 7.1 by 2.9 by 0.9 inches, this 1.1-pound battery didn't load me down. Its three output options can charge three devices (including a laptop) simultaneously, and you can charge the battery up to 500 times. It's rated to provide 6 hours of capacity for a laptop, and 112 hours for a cell phone.

WITH THE XP18000, you can keep multiple devices juiced up.

Various charging tips and cables come with the battery. One frustration, however, is the absence of a tip guide; the XPal-branded manual provides no information on the tips. This battery pack is a good value—if a tip is available for your device.

—Melissa J. Perenson

★★★☆☆ GOOD

Energi to Go XP18000 | Energizer

Convenient, versatile battery pack charges up to three devices at once.

List: $150

find.pcworld.com/64376

DOWNLOAD THIS

Freebies to Block Bad Guys and Back Up Files

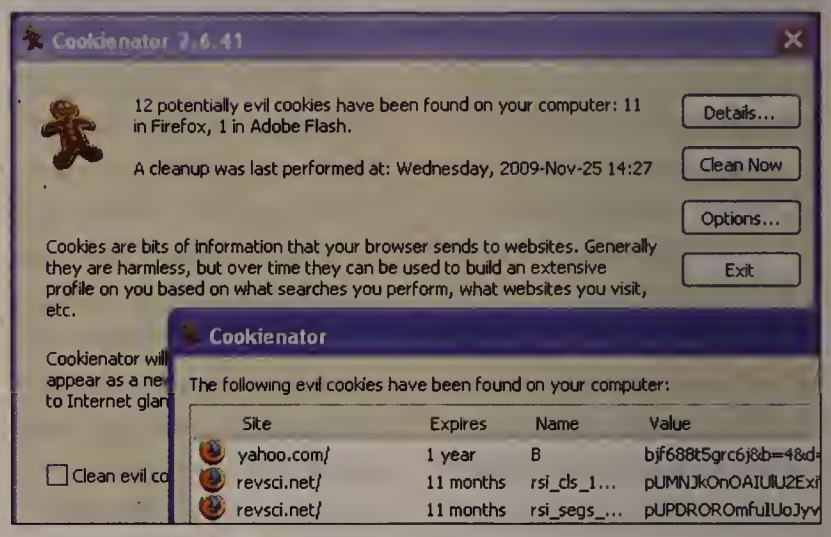
IF YOU WORK online, you expect it to be a private office—but bad guys can use sneaky Flash cookies to track your movements. Block them from almost any browser with a privacy utility. Another freebie lets you use the many tools of Google Docs from within Microsoft Office. And for protecting crucial and fast-changing files, try a continuous-backup tool.

Cookienator

This small, simple program hunts for cookies from well-known Websites such as AOL, Google, and Yahoo. On startup, Cookienator reports how many tracking cookies it found in various browsers, including Internet Explorer, Firefox, Safari, and Chrome (note that you may need to close all of your browsers before it will find cookies for each program).

Cookienator also clears so-called Flash cookies. Though technically not cookies, these small files can be employed for similar tracking, and they normally aren't deleted when you instruct your Web browser to get rid of cookies.

find.pcworld.com/64345 *—Erik Larkin*



WITH THE SIMPLE-TO-USE Cookienator, you can clean away tracking cookies in any Web browser—or in several browsers at once.

OffiSync

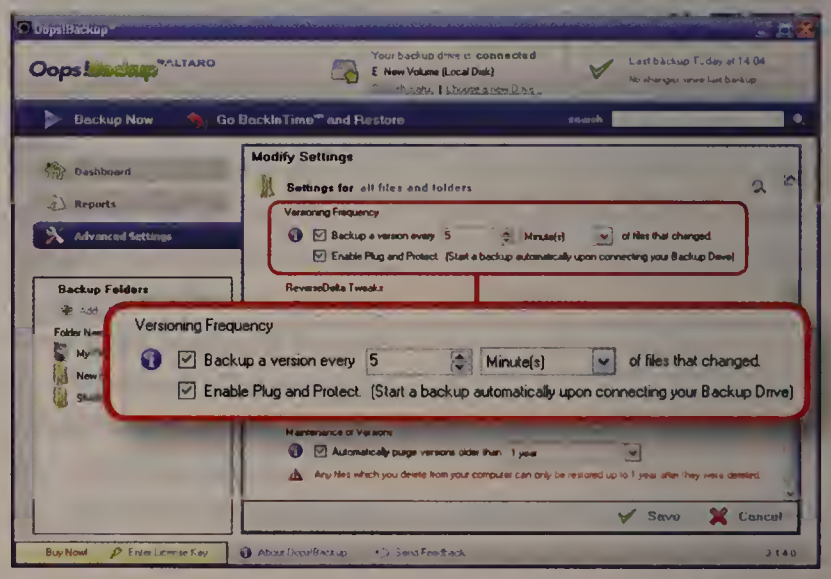
Wouldn't it be nice if you could make a mash-up of Microsoft Office and Google Docs, using all of Office's great tools for document creation and editing, as well as Google Docs' online-storage and collaboration tools? The OffiSync utility allows you to do exactly that. With OffiSync installed, you can work inside Office to create and edit your documents as you normally would, and then store and access those documents via Google Docs, without having to use Google Docs itself. Since OffiSync lives inside Office, as part of the same overall menu you rely on to open any files, this tool is extremely easy to use.

find.pcworld.com/64347 *—Preston Gralla*

OopsBackup

This impressive continuous-backup package keeps all versions of the files it backs up, and saves only the changes. This reduces disk space requirements, often significantly. When you need to retrieve a file, you just choose a time from which to restore. The latest version of a file is always available for restore—even if you have the backup drive attached to another computer that doesn't have OopsBackup installed on it. This application is worth trying out in your search for the perfect backup solution.

find.pcworld.com/64348 *—Jon Jacobi*



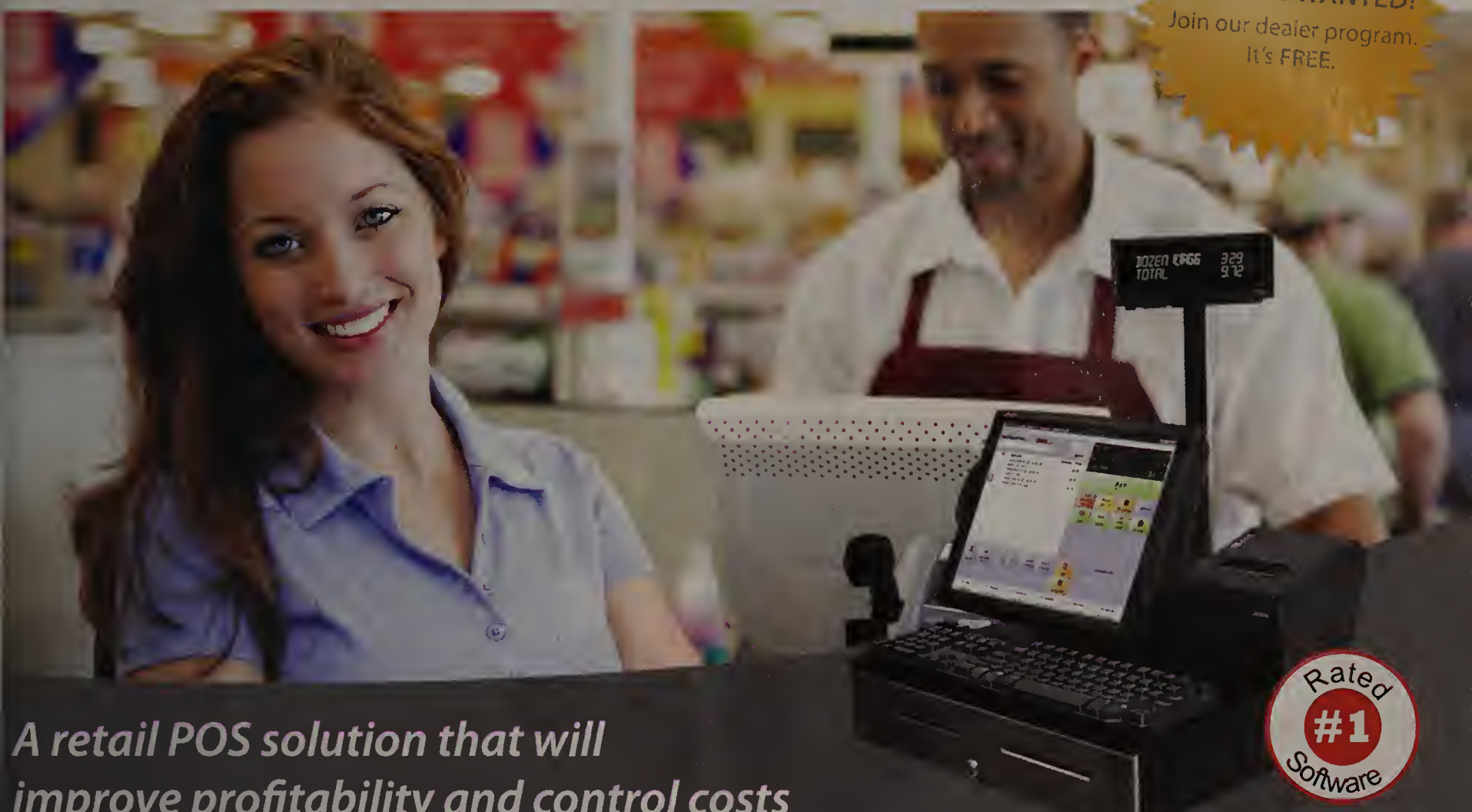
OOPSBACKUP OFFERS CONTINUOUS protection of your files, and makes restoring them from any point in time effortless.

PHOTOGRAPH: ROBERT CARDIN

Cash Register *express*

Point of Sale Solution for Retail

DEALERS WANTED!
Join our dealer program.
It's FREE.



A retail POS solution that will improve profitability and control costs

Cash Register Express provides cost saving capabilities far beyond what you can expect from a conventional electronic cash register or generic POS system. We are experts at helping you improve profitability by increasing efficiency and accuracy while reducing inventory loss. The advanced features of Cash Register Express help you make ***smarter business decisions***.

KEY FEATURES

- Fast and easy checkout via barcode scanning, touchscreen interface
- Flexibility to meet the needs of virtually any retailer
- Security: Reduce or eliminate theft, connect to security cameras
- Built-in customer marketing, gift and loyalty programs
- Track and manage inventory, generate purchase orders
- Employee Management: Integrated time clock and labor scheduler
- Detailed business reporting to help control expenses and improve profits
- Access your reports and inventory information online

***Ask about our handheld inventory solutions**

Invoice Screen

INDUSTRY PROVEN

With over 20 years in the POS industry, pcAmerica software is used by over 50,000 businesses worldwide.

- Convenience Stores
- Grocery & Supermarket
- Gift Shops & Museum Shops
- Car Washes
- Florists
- Cellular & Electronics
- Tobacco Stores
- Chains or Independents
- Apparel / Clothing
- Liquor Stores
- Book Stores
- Dollar & Discount Stores
- Video Game & Music Stores
- Video & Equipment Rental
- Restaurants & Delis
- Your Retail Store

pcAmerica
Retail and Restaurant Solutions

| 877.722.7671 | www.pcAmerica.com/pcw/cre

HOW TO STOP

11 Hidden Security Threats

Antivirus software and a firewall alone can't guarantee your safety. Here's how to foil the latest crop of sneaky attacks and nefarious attempts to steal your data. »

BY TONY BRADLEY
ILLUSTRATION BY FRANK STOCKTON

SECURITY
BREACH

DO YOU KNOW HOW TO GUARD AGAINST SCAREWARE?

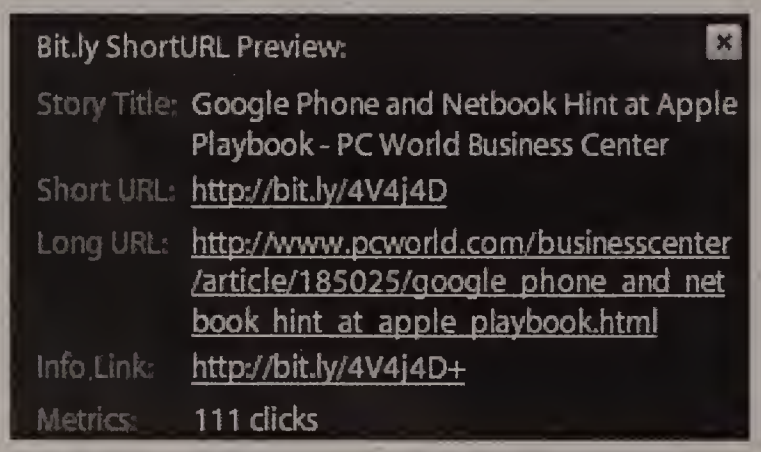
How about Trojan horse text messages? Or social network data harvesting? Malicious hackers are a resourceful bunch, and their methods continually evolve to target the ways we use our computers now. New attack techniques allow bad guys to stay one step ahead of security software and to get the better of even cautious and well-informed PC users.

Don't let that happen to you. Read on for descriptions of 11 of the most recent and most malignant security threats, as well as our complete advice on how to halt them in their tracks.

Shortened URLs

Most tweets, and lots of other electronic messages, include links that have been shortened by services such as Bit.ly, Tr.im, and Goo.gl. The URL aliases are handy, but they pose a risk, too: Since short URLs give no hint of the destination, attackers can exploit them to send you to malicious sites.

Use a Twitter client: Programs such as TweetDeck (find.pcworld.com/62924) include options in their settings to display previews of shortened URLs. With such a setting enabled, clicking a shortened URL within a tweet brings up a screen that shows the destination page's title, as well as its full-length URL and a tally of how many other people have clicked that link. With this information at your disposal, you can make an informed decision about whether to click through and visit the actual site.



TWEETDECK ALLOWS YOU to view the details underlying a shortened URL before continuing to the destination.

Install a URL-preview plug-in: Several Web browser plug-ins and services perform a similar preview function. When you create a shortened address with the TinyURL service, for instance, you can choose an option to create a preview version so that recipients can see where it goes before clicking. Conversely, if you're considering visiting a TinyURL link, you can enable its preview service (tinyurl.com/preview.php) to see the complete URL. For the TinyURL previews to work, though, you must have cookies enabled in your browser.

ExpandMyURL (expandmyurl.com) and LongURLPlease (www.longurlplease.com) both provide Web browser plug-ins or applets that will verify the safety of the full URLs behind abbreviated links from all the major URL-shortening services. Rather than changing the shortened links to their full URLs, however, ExpandMyURL checks destination sites in the background and marks the short URLs green if they are safe.

Goo.gl, Google's URL-shortening service, provides security by automatically scanning the destination URL to detect and identify malicious Websites, and by warning users when the shortened URL might be a security concern. Unfortunately, Goo.gl has limited application because it works only through other Google products and services.

Data Harvesting of Your Profile

Some of the personal details that you might share on social networks, such as your high school, hometown, or birthday, are often the same items used in "secret" security questions for banks and Websites. An attacker who collects enough of this information may be able to access your most sensitive accounts.

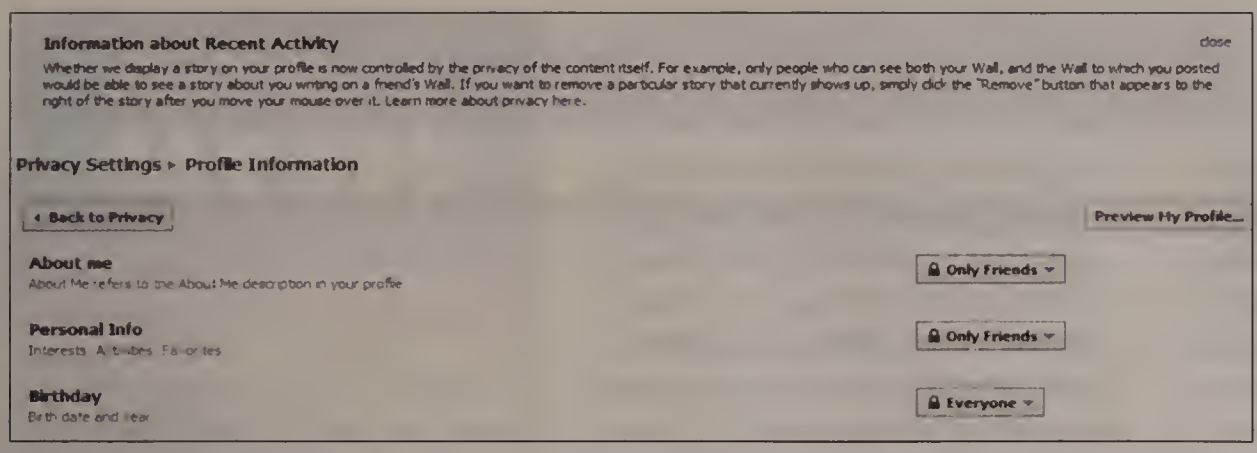
Check your Facebook privacy settings: After signing in to your Facebook account, click *Settings* on the menu bar and select *Privacy Settings*.

Facebook's privacy settings allow you to choose who may see various personal details. You can hide your details from everyone but your Facebook friends (our recommendation), allow members of your networks to view your details as well, or open the floodgates and permit everyone to see your information. You

SECURITY MYTH

I don't have anything an attacker would want.

Average users commonly believe that the data on their computers is valuable only to them or has no intrinsic value at all, and that therefore they have nothing to protect and no need to worry. There are three problems with this way of thinking. First, instead of pilfering data, attackers often want to take control of the computer itself, as they can employ a compromised PC to host malware or to distribute spam. Second, you may not think that your PC has any important or sensitive information, but an attacker may be able to use seemingly trivial information such as your name, address, and birth date to steal your identity. And third, most attacks are automated and simply seek out and compromise all vulnerable systems; they do not discriminate based on a target's value.



YOU CAN CONTROL the privacy settings for each element of your Facebook profile.

can also set the privacy level for each component of your profile—for example, your birthday, your religious and political views, the photos you post, and your status updates.

Don't accept any friend requests from strangers: From time to time you may get a friend request from someone you don't know. If you're serious about protecting your personal information, you shouldn't accept such requests.

Share with caution: Consider removing valuable information such as your birth date and hometown from your profile. You should also think twice before participating in Facebook quizzes and chain lists—though it seems innocent and fun to share your favorite breakfast cereal, the first concert you attended, or where you met your spouse, an attacker armed with enough of these tidbits can assume your identity.

Social Network Impostors

If you've connected with someone on Facebook, LinkedIn, Twitter, or another social network, it's probably because you know and trust the person. Attackers, however, can take control of your friend's online persona and then exploit that trust.

Beware of scams sent from 'friends': Attackers can hijack one of your online buddies' social networking accounts through malware, phishing scams, and other techniques, and then use the stolen accounts to spam you, steal your personal data, or even con you out of cash. Once the thieves have locked your friend out of the account, they may send you a note saying, "Help! I'm in London and my wallet was stolen. Can you wire me some money for a plane ticket?" Or they may recommend that you click on doctored links that will allow them to infect your computer or compromise your own account.

Web Snooping

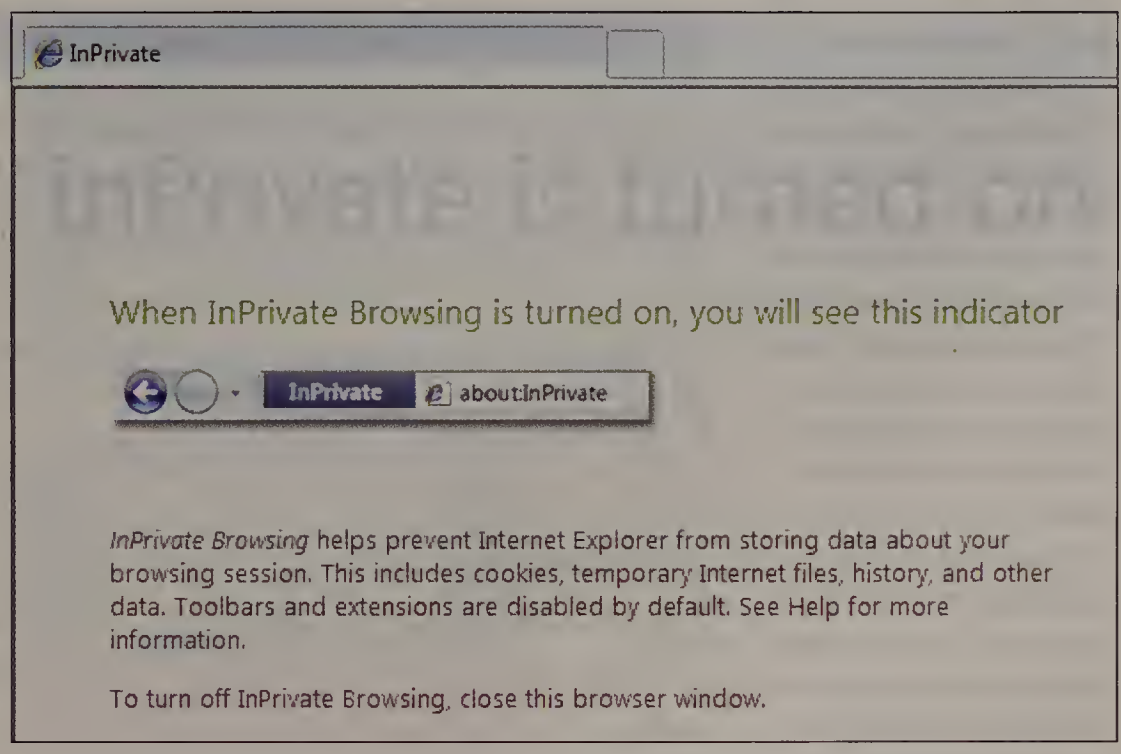
Now that so much entertainment, shopping, and sociolizing has shifted online, every Internet user leaves a rich digital trail of preferences. The books you read, the movies you rent, the people you interact with, the items you buy, and other details constitute a gold mine of demographic data for search engines, advertisers, and anyone who might want to snoop around your computer.

Do business with companies you trust: Stay aware of the privacy policies of the Websites and services you interact with, and restrict your dealings to those that you believe you can trust to guard your sensitive information. (For additional advice, see find.pcworld.com/63678.)

Use private browsing: The current versions of Internet Explorer, Firefox, Safari, and Chrome include private-browsing modes. These features, such as IE 8's InPrivate Browsing and Firefox 3.5's Private Browsing, ensure that the site history, form data, searches, passwords, and other details of the current Internet session don't remain in your browser's cache or password manager once you shut the browser down. By protecting such information on the computer you do your surfing on, these features help you foil nosy coworkers or relatives.

Scareware

You're probably familiar with the garden-variety phishing attack. Like a weekend angler, a phisher uses bait, such as an e-mail message designed to look as if it came from a bank or financial institution, to hook a victim. Scareware is a twist on the standard phishing attack that tricks you into installing rogue antivirus software by "alerting" you that your PC may be infected.



THE INPRIVATE BROWSING feature in Microsoft's Internet Explorer 8 allows you to use the Web without storing on your PC any sensitive information that snoops might pursue.

Don't take the bait: Stop and think. If, for instance, you don't have any security software installed on your PC, how did the "alert" magically appear? If you do have a security utility that identifies and blocks malicious software, why »

would it tell you to buy or download more software to clean the alleged infection? Become familiar with what your security software's alerts look like so that you can recognize fake pop-ups.

Don't panic: You should already have antimalware protection. If you don't, and you're concerned that your PC may in fact be infected (not an unreasonable concern, given the existence of a rogue "alert" on your screen), scan your system with Trend Micro's free online malware scanner, HouseCall (housecall.trendmicro.com), or try running Microsoft's Malicious Software Removal Tool (find.pcworld.com/64330); for more help, see "Additional Security Resources" on page 76. Once you complete that scan, whether it discovers anything or not, find yourself a reputable antimalware app and install it to protect your PC in the future.

Update your browser: Such fake messages will prompt you to visit the scammer's Website, which may infect your system further. Current versions of most Web browsers and many Internet security suites (for reviews, see find.pcworld.com/64334) have built-in phishing protection to alert you to sketchy sites. It's important to note that while the databases these filters use are updated frequently to identify rogue sites, they aren't fail-safe, so you should still pay attention to any URL that you consider visiting. To make this easier, both Internet Explorer 8 and Chrome highlight the real, or root, domain of the URL in bold so that you can easily tell whether you're visiting, say, the genuine "www.pcworld.com" or a spoofed site like "www.pcworld.com.phishing-site.ru."

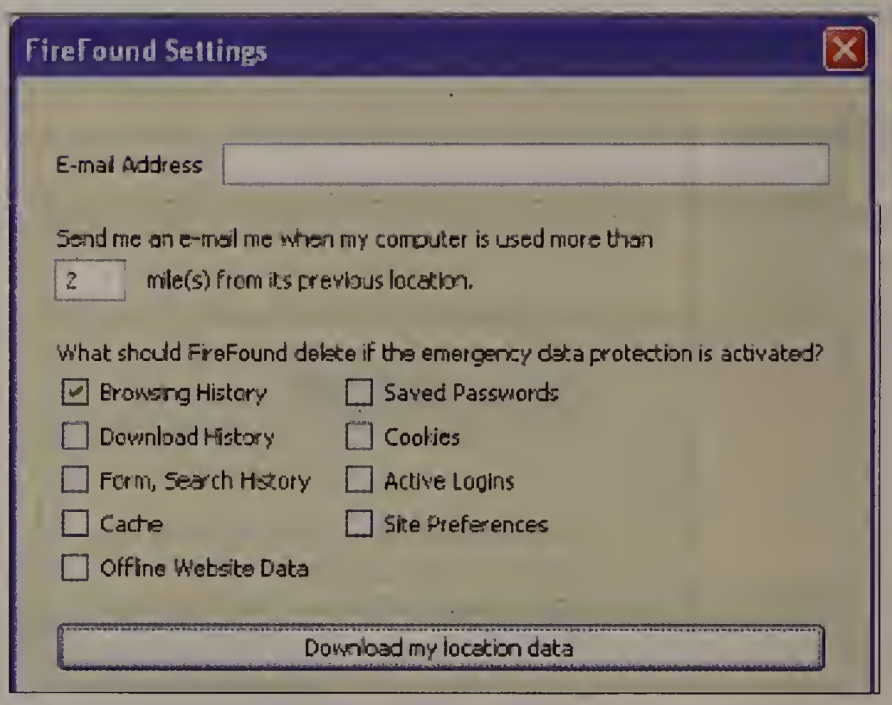
Trojan Horse Texts

Some attackers will send spam text messages to your mobile phone that appear to be from your network provider or financial institution. These Trojan horse text messages may direct you to a malicious site or request permission to install an update that will change the settings on your cell phone to allow the attackers to capture usernames, passwords, and other sensitive information from your device.

Go to the source for updates and news: If you receive a text message that appears to be from a trustworthy source, but it directs you to install or update software, or if it initiates the installation and requests permission to continue, immediately exit the text-messaging app and contact the customer service department for the wireless provider or business in question to verify whether the software is legitimate.

You may receive a lot of unsolicited e-mail from companies that you do business with—e-mail that you might even regard as spam—but reputable companies will not send you unsolicited links and updates via e-mail. Similarly, reputable companies will not send unsolicited text messages to your mobile device directing you to install an update or download new software.

Attackers prey on your tendency to trust your wireless provider or financial institution. Do not blindly accept software updates or download applications to your mobile phone simply because the text message appears to be official. If in any doubt, follow up with your wireless provider or with the business.



WORRIED THAT YOUR browsing data is vulnerable if you lose your laptop? FireFound lets you configure what to delete in the event of a failed login.

Lost Laptops, Exposed Data

The portability of laptops and cell phones is convenient, of course, but that some portability means that such devices are easily lost or stolen. If your laptop, netbook, phone, or other device falls into the wrong hands, unauthorized users may access the sensitive data that you've stored there.

Encrypt your data: You can use a utility such as Microsoft's BitLocker to encrypt data. Unfortunately, BitLocker is available only for Windows Vista and Windows 7, and even then it's exclusive to the Ultimate and Enterprise editions of those OSs (and is also available in Windows Server 2008); you won't find the tool in the consumer versions of Vista and Windows 7.

Fortunately, BitLocker isn't the only game in town. You can use another encryption program, such as TrueCrypt (find.pcworld.com/61859; available for free under open-source licensing), to protect your data from unauthorized access.

Encrypting your data is not without a pitfall or two, however. The biggest issue is to ensure that you always possess the key. If you lose your encryption key, you will quickly discover just how good encryption is at keeping out unauthorized users.

Use stronger passwords: If encrypting seems to be more of a hassle than it's worth, at least use strong passwords to protect your PC. Longer passwords are better; more characters take longer to crack. You should also mix things up by substituting numbers and special characters for letters. For example, instead of "PCWorldMagazine", you could use "PCW0r1dM@g@zin3". Though that's

SECURITY MYTH

I have antivirus software installed, so I am safe.

Antivirus software is an absolute necessity, and it's a great start, but installing it won't protect against everything. Some antivirus products are just that—they don't detect or block spam, phishing attempts, spyware, and other malware attacks. Even if you have a comprehensive security software product that protects against more than just viruses, you still must update it regularly: New malware threats are discovered daily, and antimalware protection is only as good as its last update. Keep in mind, as well, that security vendors need time to add protection against emerging threats, so your antimalware software will not guard you from zero-day or newly launched attacks.

still a phrase you can easily remember, the character diversity makes it significantly harder to guess or crack.

You should have a secure password to log in to your user account even if you're the only person who uses your computer. Note, however, that while strong passwords are a great deterrent, they aren't impervious to attack: An invader who has physical possession of your computer can find ways to get around that protection.

Lock down your BIOS: By implementing a BIOS password or a hard-drive password (or both), you can ensure that no one else can even boot the computer. Getting into the BIOS varies from system to system. The initial splash screen that your PC displays usually tells you which key to press to access the BIOS settings; watch as the computer is booting, and press **<Del>**, **<Esc>**, **<F10>**, or whichever key it specifies.

Once inside, find the security settings. Again, these settings vary from vendor to vendor, but the BIOS settings are fairly rudimentary. Learn more about accessing and navigating your system's BIOS at find.pcworld.com/64335.

You can set a master password that prevents other people from booting your computer or altering the BIOS settings (find.pcworld.com/64336). This option goes by different names, but it is often called an administrator password or supervisor password. If you wish, you can also set a hard-drive password, which prevents any access to the hard disk until the password is entered correctly.

SET AN HDD (hard drive) password in the BIOS to guard your PC.

Methods for circumventing these passwords exist, but having the passwords in place creates another layer of security that can help to deter all but the most dedicated attackers.

Use a recovery service: If your equipment gets lost or stolen, you'd like to recover it; but if you can't get your hardware back, you'll at least want to erase the data it holds. Some vendors, such as HP and Dell, offer services that try to do both for select laptop models.

Both HP's Notebook Tracking and Recovery Service (find.pcworld.com/64337) and Dell's Laptop Tracking and Recovery (find.pcworld.com/64338) are based on Computrace from Absolute Software. When you report that a laptop protected with one of these services has been lost or stolen, a small application running in the background on the PC waits for the computer to connect to the Internet and then contacts the monitoring center to relay location information for finding the machine. If a protected lost or stolen laptop cannot be retrieved, or if the data on a system is highly sensitive, these services allow you to remotely erase all of the data stored on it.

Though less comprehensive, free utilities such as the FireFound add-on for Firefox (find.pcworld.com/64339) provide similar capabilities. You can configure FireFound to automatically delete your passwords, browsing history, and cookies following a failed login attempt.

Mobile phones can hold a significant amount of sensitive data, too. Fortunately, services such as Find My iPhone, part of Apple's $99-per-year MobileMe service (find.pcworld.com/64340), and Mobile Defense for Android-based smartphones (find.pcworld.com/64341) perform similar feats of location tracking and remote data wiping for smartphones. Both MobileMe and Mobile Defense can use the built-in GPS capabilities of your smartphone to pinpoint the current location of the device and relay that information back to you.

SECURITY MYTH

Security is a concern only if I use Windows.

Microsoft certainly has had its share of security issues over the years, but that doesn't mean that other operating systems or applications are immune from assault. Though Microsoft products are the biggest target, Linux and Mac OS X have vulnerabilities and flaws, too. As alternative OSs and Web browsers gain users, they become more attractive targets, as well. Increasingly, attackers are targeting widely used third-party products that span operating systems, such as Adobe Reader.

Rogue Wi-Fi Hotspots

Free Wi-Fi networks are available almost everywhere you go. Attackers, however, sometimes set up a malicious open Wi-Fi network to lure unsuspecting users into connecting. Once you have connected to »

a rogue wireless network, the attacker can capture your PC's traffic and gather any sensitive information you send, such as your usernames and passwords.

Verify the network's name: If you want to connect to the Internet at a coffee shop or in another public place, find out the SSID of the establishment's network. The SSID is the name of the wireless network; it is broadcast over the airwaves so that your computer can detect the network, and as a result it's the name that appears in your system's list of available networks.

The SSID for a network at a McDonald's restaurant, for instance, might be "mickeyds." An attacker could set up a rogue wireless router in the vicinity of the McDonald's location and set its SSID to "mcdwifi" or "mickeyds2." Your computer would then display both names on the list of available networks—and the rogue wireless network might even have a stronger signal and appear higher on the list. Make sure that you connect only to the official network.

When in doubt, don't trust any open network. Most free wireless networks are unencrypted—and therefore unprotected. That means that the data traveling between your computer and the wireless router is susceptible to being intercepted and viewed by other parties that happen to be within range of the wireless network. Unless you have your own secure connection, such as a VPN (virtual private network) connection to the network at your office, you should avoid using public Wi-Fi for logging in to sensitive accounts (such as your e-mail or bank account); instead, limit your Internet usage in such public places to reading the news or checking for weather updates and traffic reports.

SECURITY MYTH

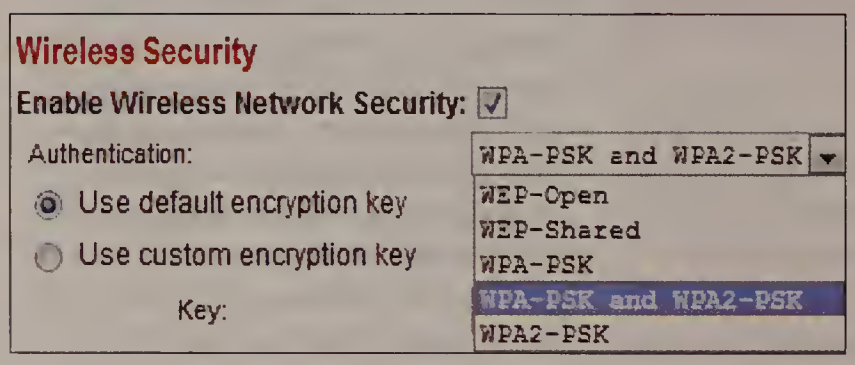
My router has a firewall, so my PC is protected.

A firewall is great for blocking random, unauthorized access to your network, and it will protect your computer from a variety of threats; but attackers long ago figured out that the quickest way through the firewall is to attack you via ports that commonly allow data to pass unfettered. By default your firewall won't block normal traffic such as Web data and e-mail, and few users are comfortable reviewing firewall settings and determining which traffic to permit or block. In addition, many attacks today are Web-based or originate from a phishing attack that lures you into visiting a malicious Website; your firewall cannot protect against such threats.

Weak Wi-Fi Security

If you're cautious, you've already secured your wireless network with a password to keep outsiders from accessing it or using your Internet connection. But password protection alone may not be sufficient.

Use stronger encryption: Several types of Wi-Fi network encryption are available, and there are some important differences between them. WEP (Wired Equivalent Privacy) encryption is the most common variety employed on wireless networks. If you have a WEP password in place on your Wi-Fi network already, you've taken a significant step toward protecting it from intruders.



WEP ENCRYPTION IS better than nothing, but for stronger protection of your wireless network, choose either WPA or WPA2.

But WEP can be easily cracked: Tools are available that allow even unskilled attackers to crack the code and access your network in a matter of minutes. WEP is still helpful, since most aspiring wireless-network hijackers are not dedicated enough to take the time to break in, but to be safe you should use WPA (Wi-Fi Protected Access) or its successor, WPA2. These encryption types resolve the weaknesses of WEP and provide much stronger protection.

Log in to your router's console and find the wireless-security settings. There, enable encryption and select either WPA or WPA2. Enter a password, save the settings, and restart your router—and you'll start surfing more safely.

Endangered Data Backups

You know that you should back up your data—especially files of irreplaceable items such as family photos—regularly. But while storing backups on an external hard drive or burning them to blank CDs or DVDs and keeping them in the closet will enable you to restore files easily if your hard drive crashes or corrupts, that approach also creates a portable—and thus easily lost or stolen—archive of your sensitive data. »

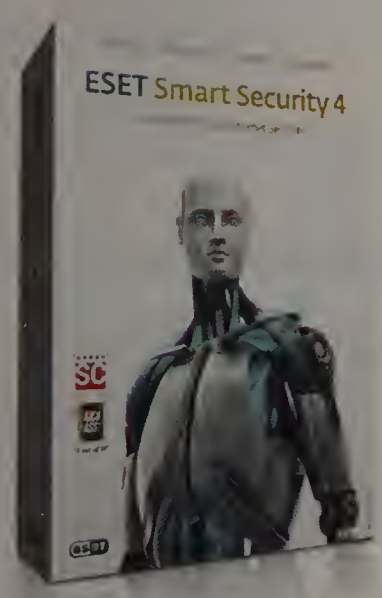
SECURITY MYTH

Since I visit only major, reputable sites, I have nothing to worry about.

You certainly increase your system's odds of being infected or compromised when you visit the shady side of the Web, but even well-known Websites are occasionally infiltrated. Sites such as those for Apple, CNN, eBay, Microsoft, Yahoo, and even the FBI have been compromised by attackers running cross-site scripting attacks to gather information about users or to install malicious software on visitors' computers.

Worried about cybercrime?

ESET will protect you.



ESET Smart Security 4

Effective, fast protection for your PC

Our award-winning security technology is the most effective way to stop viruses, spyware, hackers, spam and other internet threats. By blocking threats the second they're released, we'll keep your internet experience safe and secure. Without slowing you, or your system, down.

www.eset.com

© 2009 ESET, LLC All rights reserved. Trademarks used herein are trademarks or registered trademarks of ESET LLC All other names and brands are registered trademarks of their respective companies

eset

Encrypt your backup data: Be sure to use a backup utility that allows you to protect your data with encryption, or at least a password, to prevent unauthorized access. If you want to take things a step farther, you can put your backup files on an encrypted external USB drive such as the Seagate Maxtor BlackArmor, a *PCWorld* Best Buy. You can also find external drives with biometric fingerprint scanners, such as the Apricorn Aegis Bio or the LaCie d2 Safe. (For reviews of these drives and others, see find.pcworld.com/64342.)

Use an online backup service: If you prefer, you can use an online storage service such as Microsoft Windows Live SkyDrive (skydrive.live.com), which provides 25GB of storage space for free and offers a measure of security by requiring a username and password for access. Unfortunately, copying 25GB of data and keeping it updated via SkyDrive can be a time-consuming and cumbersome process. For a small fee, though, you can use a service such as Mozy (mozy.com), which includes tools to automate the process and to ensure that your data is backed up regularly.

ADDITIONAL SECURITY RESOURCES

Many sites and services on the Web can help you learn more about computer security threats or can analyze your machine to make sure it is clean and safe.

HOAX ENCYCLOPEDIA: The About.com Antivirus site has a comprehensive database of e-mail and virus hoax messages. Before you forward the next "urgent" alert to your family and friends, check for it on this list. find.pcworld.com/64327

McAFEE VIRUS INFORMATION LIBRARY: McAfee maintains a complete listing of malware threats, including details on how they spread and how you can protect your computer against them. find.pcworld.com/64328

MICROSOFT CONSUMER SECURITY SUPPORT CENTER: On this page you can find solutions to common security problems, as well as links to other information and resources for Microsoft's security products. find.pcworld.com/64329

MICROSOFT MALICIOUS SOFTWARE REMOVAL TOOL: This tool is designed to scan for and remove current, pervasive threats. Its scan is smaller and faster than a complete antimalware scan, but it identifies only a handful of threats. Microsoft releases a new version of the tool—along with regular security fixes—on the second Tuesday of each month ("Patch Tuesday"). find.pcworld.com/64330

MICROSOFT SECURITY ESSENTIALS: This free antivirus application provides real-time protection for Windows PCs against viruses, worms, spyware, and other malicious software. find.pcworld.com/64078

PHISHTANK: A community project, PhishTank is a database of known phishing sites. You can search the database to identify phishing sites, and you can add to the list any new sites you've encountered. www.phishtank.com

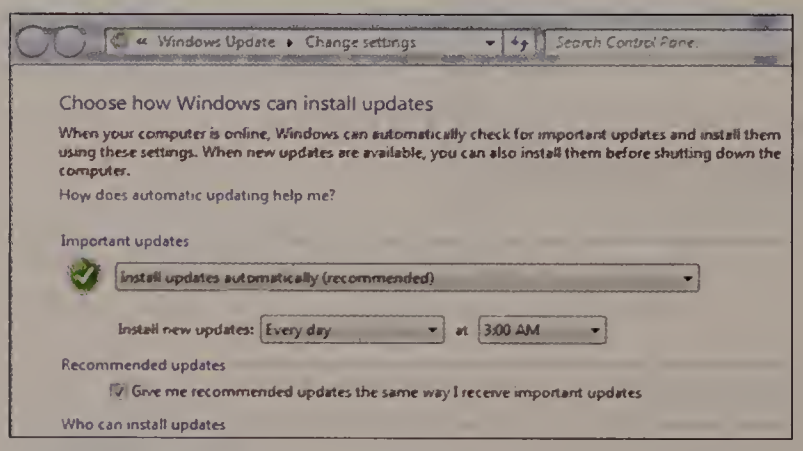
TREND MICRO HOUSECALL: Trend Micro's free HouseCall service scans your computer online to discover and remove any viruses, worms, or other malware that may be residing on it. housecall.trendmicro.com

Unpatched Software (Not Just Windows)

Microsoft's products have long been favorite targets for malware, but the company has stepped up its game, forcing attackers to seek other weak links in the security chain. These days, third-party products such as Adobe Reader provide attackers with alternative options for hitting your PC.

Install all security updates: You should have both a firewall and an antimalware utility protecting your system, but one of the simplest—and most effective—ways to guard against attack is to make sure that you keep your operating system and applications up-to-date.

Attackers have discovered that a considerable number of third-party applications such as Adobe Reader and Adobe Flash are present on virtually every computer and contain exploitable weaknesses. To guard against threats, you can use a program such as the Secunia Personal Software Inspector (find.pcworld.com/63302) to scan your system, identify applications that have known vulnerabilities, and install the necessary updates.



WINDOWS AUTOMATIC UPDATES checks for new patches and updates on a regular basis to protect your computer.

Do your best to stay informed of existing flaws for the various applications you use, and apply appropriate patches as soon as possible. The About.com Antivirus Software site (antivirus.about.com) is a good resource to use in collecting such information. You can also check sites such as McAfee's Avert Labs Threat Library (vil.nai.com/vil/default.aspx) for the latest news on emerging threats.

Though attacking third-party products may be a path of least resistance, bad guys haven't given up entirely on Microsoft products. Windows users should have Automatic Updates enabled and set to download and install important security updates automatically. Windows Automatic Update will keep the Windows operating system—as well as other Microsoft software such as Internet Explorer and the various Office applications—patched and current. ●

Windows®. Life without Walls™, CyberPower recommends Windows 7 Home Premium

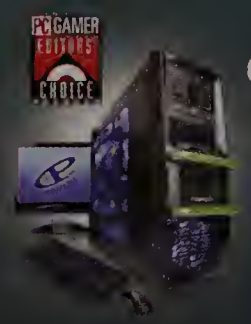
www.cyberpowerpc.com

NEW

intel CORE i7 inside™

Faster. Smarter.

CyberPOWER Inc.



Intel® Core™ i7 Processor
(8MB L3 Cache, 1066Mhz)

Extreme i7-975 3.33Ghz	$ 2335
i7-960 3.20Ghz	$ 1845
i7-940 2.93Ghz	$ 1685
i7-920 2.66Ghz	$ 1545

Gamer Infinity 8800 Pro SE

Intel® Core™ i7-920 Processor
Genuine Window 7 Home Premium 64 Bit Edition

- MB Intel® X5B Chipset Mainboard
- RAM Corsair® 6GB DDR3-1333 Tri Channel Memory
- HD 1TB 7200RPM SATA-II 3.0Gb/s 16MB Cache Ultra Fast HD
- VGA ATI Radeon™ 5870 1GB Direct X 11 Video
- CASE Inwin Maelstrom Full Tower Case 800 Watt Power
  Asetek Liquid Cooling System

4X Blu-ray Player | DVD 24X±RW | HD 7.1 600 W | Xtreme Gear® | Xtreme Gear® | FREE 802.11G

$1545

UNLEASH THE POWER

Order Toll Free 800-707-0393

YOUR UNLIMITED GAMING SOLUTIONS

Gamer Xtreme 1000

Intel® Core™ i3-530 Processor
Genuine Window 7 Home Premium 64 Bit Edition

Intel® Core™ i7 Processor
(8MB L3 Cache, 1066Mhz)

870 2.93Ghz	$ 1135
860 2.80Ghz	$ 825

Intel® Core™ i5 Processor

750 2.66Ghz	$ 739
670 3.46Ghz	$ 825
660 3.33Ghz	$ 739
3.20Ghz	$ 719

Intel® Core™ i3 Processor

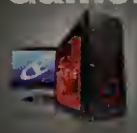
3.06Ghz	$ 660
2.93Ghz	$ 645

- MB Intel® H55 Chipset Mainboard
- RAM Corsair® 4GB DDR3-1333 Dual Channel Memory
- HD 500 GB 7200RPM SATA-II 3.0Gb/s 16MB Cache Ultra Fast HD
- VGA NVIDIA® GeForce® GT 220 1GB
- CASE Apevia X-Crusier 2 Gaming case with 3 Meters & Controls 420 Watt Power Supply

DVD 24X±RW | HD 7.1 600 W | Xtreme Gear® | Xtreme Gear® | FREE 802.11G

$645

Gamer Infinity HD 5750



Intel® Core™ i7-920 Processor
Genuine Window 7 Home Premium 64 Bit Edition

Intel® Core™ i7 Processor
(8MB L3 Cache, 1066Mhz)

Extreme i7-975 3.33Ghz	$ 1885
i7-960 3.20Ghz	$ 1399
i7-940 2.93Ghz	$ 1239
i7-920 2.66Ghz	$ 1099

- MB Intel® X58 Chipset Mainboard Supporting CrossFireX™/SLI™
- RAM Corsair® 6GB DDR3-1333 Tri Channel Memory
- HD 500GB 7200RPM SATA-II 3.0Gb/s 16MB Cache Ultra Fast HD
- VGA ATI Radeon™ HD5750 1GB
- CASE Apevia X-Dreamer 3 Gaming Case / 600 Watt Crossfire™ Power
  Asetek Liquid Cooling System

DVD 24X±RW | HD 7.1 600 W | Xtreme Gear® | Xtreme Gear® | FREE 802.11G

$1099

Gamer Xplorer X7-7700

Intel® Core™ i7 620M Processor
Intel® PM55 Chipset
Intel® WiFi Link 5300 802.11 A/G/N
Genuine Window 7 Home Premium 64 Bit Edition

Intel® Core™ i7 Processor
(1333/1066Mhz)

Extreme 920XM	$ 2259
820QM 8MB 1.73Ghz	$ 1665
720QM 6MB 1.60Ghz	$ 1469

(1066Mhz, 900Mhz, L3 Cache)

620M 4MB 2.66Ghz	$ 1429

4GB DDR-3 PC1333 Memory
500GB SATA150 Hard Drive
17" WSXGA TFT Display 1680x1050 pixels
8x DVD+/-RW Drive
1000/100/10 Network & 56K V.92 Fax/Modem
NVIDIA® GeForce® GTS 250M 1GB
3-in-1 Built-in Media Reader, 1 HDMI Port
1 Firewire Port IEEE-1394 & 3x USB 2.0 Ports
1 PCMCIA Type II Slot, 3 Hours Battery Life
Weight only 7.6 Lbs, Free Carrying Case

$1429

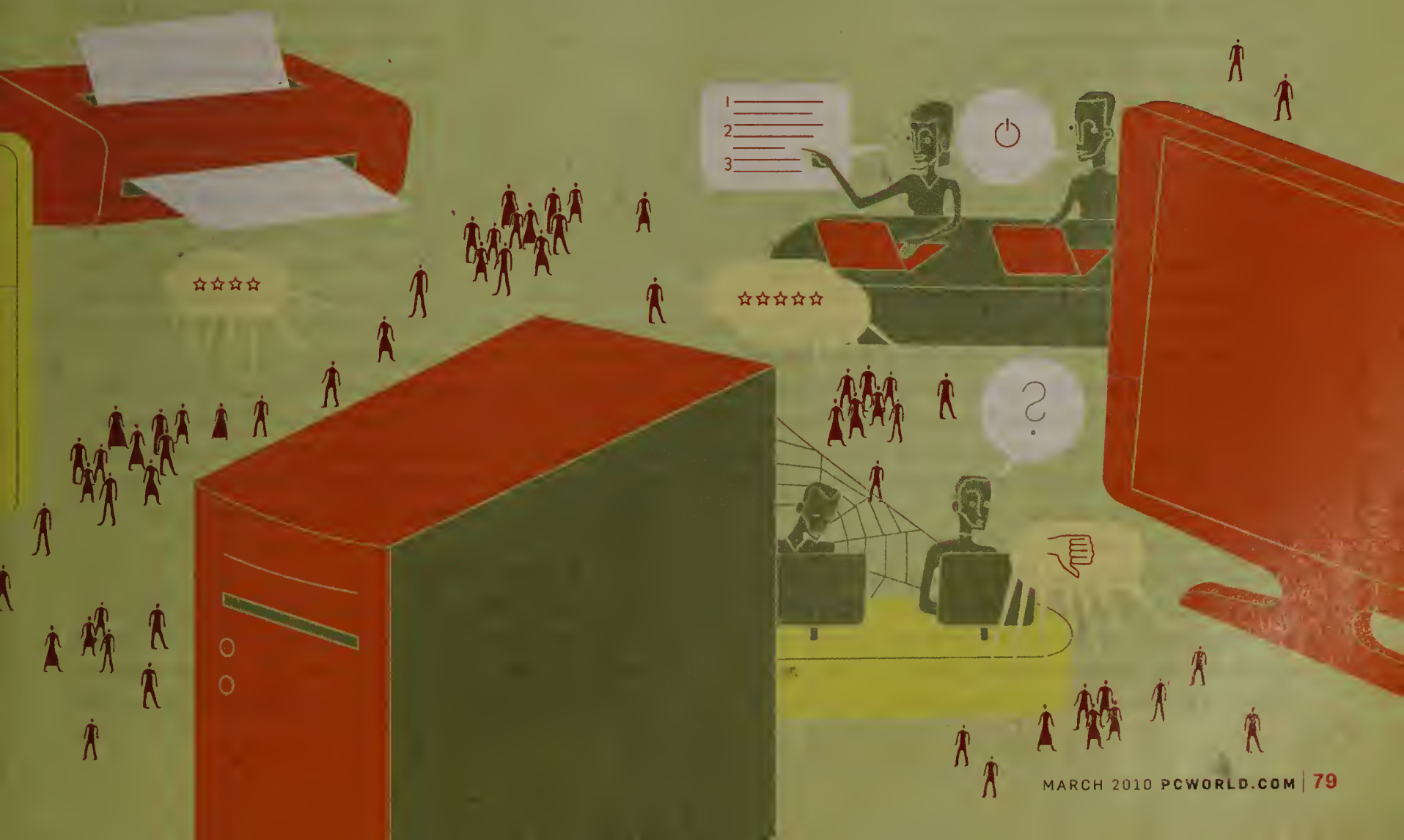
Desktop systems come with 3 year Limited Warranty + lifetime toll free techsupport

GeForce, SLI™ are trademarks or registered trademarks of NVIDIA Corporation or its subsidiaries in the United States and other countries. CyberPower PCs use genuine Microsoft Windows® • www.microsoft.com/piracy/howtotell
Inside, Centrino, Centrino Inside, Centrino Logo, Core Inside, Intel, Intel Logo, Intel Core, Intel Inside, Intel Inside Logo, Intel Viiv, Intel vPro, Itanium, Itanium Inside, Pentium,
Inside, vPro Inside, Xeon, and Xeon Inside are trademarks of Intel Corporation in the U.S. and other countries. All prices are subject to change without notice or obligation. CyberPower is not responsible for any typographical and photographic errors. Copyright ©2009 CyberPower All rights reserved

Technology's Most (and Least) Reliable Brands

When you buy a new PC, camera, printer, or TV, you want a dependable device from a manufacturer that's committed to supporting its customers. We asked 45,000 readers and found out which companies you can really trust.

BY CHRISTOPHER NULL
ILLUSTRATION BY OTTO STEININGER



Every year, consumers purchase millions of computers and peripherals. And every year, millions of those devices break down.

For anyone who plans to buy a piece of hardware, the overall reliability of a vendor's products and the quality of its service are important considerations. Unfortunately, much of the information that people use in deciding which product to buy is fragmentary and anecdotal—not the kind of data you'd want to base a three- or four-figure decision on.

To obtain some hard data about which vendors have done the best job over the past year, we recently polled approximately 45,000 visitors to PCWorld.com, asking them about the mechanical soundness of their tech products—laptop PCs, desktop PCs, HDTVs, digital cameras, and printers—and about the quality of the tech support they received when those products required service. For similar evaluations of smartphone vendors, see "The Smartphones You Can Rely On" (find.pcworld.com/64343).

Perhaps the most surprising thing about our most recent survey results is how closely consumer opinions about reliability and service this year match those we reported last year (see "Product Reliability and After-Sale Service, 2008," find.pcworld.com/69380).

Once again, Apple and Canon were far and away the favorite brands in our survey, earning high marks across the board on measurements of both reliability and service. Apple won top honors in notebooks and desktop PCs, while Canon dominated the field in printers and cameras.

But a number of other companies made impressive gains. Vendors that enjoyed markedly improved ratings in their survey results over the past year include Toshiba among laptop makers, Sony in desktop PCs, Brother for printers, Pioneer among HDTV brands, and Nikon in cameras.

At the other end of the ladder, our list of cellar dwellers did not change much, either. Across the board and in every category we tracked where it had a significant presence, Hewlett-Packard ranked as the least-reliable manufacturer in the survey. Among manufacturers that experienced momentum in the wrong direction were Dell (which took a disappointing tumble in both laptop and desktop PC reliability), Sony (which sank in televisions), and Fujifilm (in cameras).

After watching HP turn in dismal results on our survey for the past several years (find.pcworld.com/69381), we asked what was happening. Why were our readers rating a top-tier company as subpar in reliability and support, year after year?

Jodi Schilling, vice president of HP's American customer support operations, says the company is aware of the issues and took measures in 2009 to rectify the situation. Schilling says, "We're trying to move to a leadership position in service and support, and that's taking a large investment and some time."

Schilling and Brent Potts, vice president of HP's Web support operation, say that the company is focusing on three key areas: the initial design of its products, the products' operational performance and reliability, and the way the company supports its products. The last of those seems to be getting most of the attention: HP says that it is ramping up its online FAQ archive, has radically expanded its forum-based support (where experts and users can get together to talk shop), has introduced video-based tutorials, and has built a new program called HP Ambassadors around a team of 50 experts who reach out directly to more-vocal customers (read: major bloggers) to help solve problems.

On the other hand, as welcome as those changes sound, HP has not announced plans to increase its staff of tech support representatives. Hiring additional reps would no doubt be expensive, but it might also fundamentally change the experience that HP's customers have when they call tech support for help.

Schilling says that the company's changes are already having a positive effect—one internal metric shows a 20 percent improvement in overall customer satisfaction in 2009—but she cautions that the cumulative effect of its various tweaks will take time to become visible in surveys like ours.

Winners & Losers

Laptop PCs
- **Winners:** Apple, Toshiba
- **Losers:** Dell, HP

Desktop PCs
- **Winners:** Apple, Sony
- **Losers:** CyberPower, Gateway, HP

HDTVs
- **Winners:** Panasonic, Pioneer, Sharp
- **Loser:** Mitsubishi

Digital Cameras
- **Winner:** Canon
- **Losers:** Kodak, Samsung

Printers
- **Winners:** Canon, Brother
- **Loser:** HP

At a Standstill?

When we last polled users, 10.2 percent of HDTV owners reported significant problems with their sets (see find.pcworld.com/69382). This year, only 8.8 percent reported trouble. Surprisingly, that small shift is one of the biggest year-to-year

changes in any category we investigated.

What's going on here? Is the industry simply doing the best it can do?

Rob Enderle, principal analyst with the Enderle Group and a longtime follower of computer reliability trends, sees a standoff between two contradictory trends: The economic recession forced companies to cut corners—at the same time, however, increased efficiency in manufacturing and tech support offset the effects of those cutbacks.

Not only have electronics producers severely reduced their manufacturing staff this year, Enderle says, but they have also continued to move toward cheaper and presumably less durable high-tech products such as netbooks.

"I'm kind of surprised the [reliability] numbers didn't degrade," says Enderle. "With the industry's major staffing changes and the huge push downmarket, you would expect to see higher breakage rates. I thought the industry would cut more corners, and I'm surprised that didn't happen."

One explanation is that the industry is getting better at dealing with problems that cheaper parts have created—or at least at catching the problems before the products go out the door.

Enderle suggests that the widespread introduction of solid-state parts may be helping the industry hold the line on reliability: "Part of what's going on is that we've moved to more solid-state products in the market. In laptops there are more flash drives and fewer optical drives out there now. With fewer moving parts, this might have offset the additional breakage issues."

Call centers may be improving, too, despite layoffs and what Enderle sees as continuing trends for call centers to migrate offshore and for support reps to receive less training. Upgraded software for managing relations with customers and better tracking of customer issues may mitigate problems that lower staffing levels tend to cause. And even though many consumers profess to hate them, automated service processes may be more helpful than critics think, enabling users to avoid long hold times in order to talk to a support rep. Remote diagnostic capabilities probably have had a positive impact as well.

Nevertheless, the consumers we polled don't seem any happier with this year's support landscape than they were with last year's. Readers continue to complain about communication difficulties with overseas support reps »

What the Ratings Assess

WE ASKED PCWORLD.COM visitors to rate vendors in five product categories: laptop PCs, desktop PCs, HDTVs, digital cameras, and printers. In each category, we rated each vendor in nine specific areas of customer service or product reliability.

On each measure, we determined whether the vendor's score was significantly better than the average mark, not significantly different from the average, or significantly worse than the average. If a vendor drew fewer than 50 responses on a particular measure, we discarded the results as statistically unstable. (This threshold requirement prevented us from rating some smaller vendors.) The information reported in our article is thus not raw data, but variability from category averages.

Reliability Measures

Problems on arrival (all devices): Based on the percentage of survey respondents who reported any problem with the device out of the box.

Any significant problem (all devices): Based on the percentage of survey respondents who reported any problem at all during the product's lifetime.

Any failed component replaced (laptop and desktop PCs): Based on the percentage of survey respondents who reported replacing one or more original components because the components had failed.

Core component problem (laptop and desktop PCs): Based on the percentage of survey respondents who reported problems with the processor, motherboard, power supply, hard drive, system memory, or graphics board/chip at any time during the life of their laptop or desktop PC.

Severe problem (HDTVs, cameras, and printers): Based on the percentage of survey respondents who reported a problem that rendered their device impossible to use.

Ease of use (HDTVs, cameras, and printers): Based on the percentage of survey respondents who rated their device as extremely or very easy to use.

Overall satisfaction with reliability (all devices): Based on the owner's overall satisfaction with the reliability of the device.

Service Measures

Phone hold time: Based on the average time a product's owners waited on hold to speak to a phone support representative.

Average phone service rating: Based on a cumulative score derived from product owners' ratings of several aspects of their experience in phoning the company's technical support service. Among the factors considered were whether the information was easy to understand, and whether the support rep spoke clearly and knowledgeably.

Problem was never resolved: Based on the percentage of survey respondents who said the problem remained after they contacted the company's support service.

Service experience: Based on a cumulative score derived from product owners' responses to a series of questions focusing on 11 specific aspects of their experience with the company's service department.

and about the poor training that some tech staffers, whether foreign or domestic, seem to have received.

Mark Mahnkey, an equipment calibration specialist in Everett, Washington, says that he ran into countless headaches when he tried to obtain a Vista installation disc for a Toshiba laptop he had purchased earlier in 2009.

"Their stock response is, 'Go pound sand,'" says Mahnkey of the support reps who gave him the runaround, even after he offered to pay for the disc. When a rep told him that a Vista disc would cost $250, Mahnkey balked and asked to speak to a supervisor. "Toshiba actually told me to write a letter—a real postal letter—and mail it to them," he says. "Weeks later, they replied not in writing but by leaving me a voicemail—with exactly the same response as before. It's just not how a company should treat its customers."

Mahnkey never got a disc from Toshiba, but he says that he did learn something. "I'm never going to buy another Toshiba."

Fortunately for the company, few other Toshiba customers who participated in our survey shared that view: Toshiba received the second-highest overall rating among laptop makers.

Laurel Tryforos, a Des Plains, Illinois, college administrator, had an even more bizarre experience when her HP laptop (still under warranty) stopped booting up. After a few attempts to turn the machine off and on, Tryforos says, the rep suggested to her that she might have to reseat the hard drive. "He then said to 'get a screwdriver and open it up.'"

Tryforos tried to follow the rep's instructions, but even the smallest screwdriver she had was too big to fit into the slots on the machine's screws. The tech support operator then abandoned that avenue and said he would mail her some software to fix the problem (software to fix a disconnected hard drive?), and a week later Tryforos received a disc. Naturally, that strategy didn't work, so HP finally agreed to take

"Toshiba's response is, 'Go pound sand,'"

says Mark Mahnkey of Everett, Washington

LAPTOPS:
Toshiba Challenges Apple in Reliability, Though Not in Service

COMPANY	Reliability measures					Service measures			
	Problem on arrival	Any significant problem	Any core component problem[1]	Any failed component replaced	Overall satisfaction with reliability	Phone hold time	Average phone service rating	Problem was never resolved	Service experience
Apple	●	◒	◒	◒	●	n/a	●	●	●
Toshiba	●	●	●	●	◒	◒	◒	◒	◒
Acer	◒	●	●	●	◒	n/a	n/a	◒	◒
Gateway	◒	◒	●	●	◒	n/a	n/a	◒	◒
Asus	○	◒	●	●	◒	n/a	n/a	n/a	n/a
Lenovo/IBM	◒	◒	◒	◒	◒	n/a	n/a	◒	●
Compaq	◒	◒	◒	◒	◒	n/a	n/a	n/a	n/a
Sony	◒	◒	◒	◒	◒	n/a	n/a	n/a	n/a
Dell	◒	○	○	○	◒	○	◒	●	◒
HP	◒	○	○	◒	○	◒	○	○	○

BETTER

●Better ◒Average ○Worse n/a = Not applicable; we received too few responses to rate the company on this measure. FOOTNOTE: [1] We categorize six laptop PC components as "core components": CPU, motherboard, RAM, graphics chip, hard drive, and power supply.

DESKTOPS:
Apple Continues to Dominate as HP Drifts Farther Downward

COMPANY	Reliability measures					Service measures			
	Problem on arrival	Any significant problem	Any core component problem[1]	Any failed component replaced	Overall satisfaction with reliability	Phone hold time	Average phone service rating	Problem was never resolved	Service experience
Apple	●	●	●	●	●	●	●	●	●
Acer	◒	◒	◒	●	◒	n/a	n/a	n/a	n/a
eMachines	◒	◒	●	◒	◒	n/a	n/a	n/a	n/a
Sony	◒	◒	●	◒	◒	n/a	n/a	n/a	n/a
Asus	◒	◒	◒	◒	◒	n/a	n/a	n/a	n/a
Compaq	◒	◒	◒	◒	◒	n/a	n/a	n/a	n/a
Lenovo	◒	◒	◒	◒	◒	n/a	n/a	n/a	n/a
Dell	◒	◒	◒	◒	◒	◒	○	◒	◒
CyberPower	◒	◒	○	○	◒	n/a	n/a	n/a	n/a
Gateway	◒	◒	◒	◒	◒	◒	○	○	○
HP	◒	○	◒	◒	○	○	◒	◒	○

●Better ◒Average ○Worse n/a = Not applicable; we received too few responses to rate the company on this measure. FOOTNOTE: [1] We categorize six desktop PC components as "core components": CPU, motherboard, RAM, graphics board/chip, hard drive, and power supply.

the machine back for repairs. Only after a couple of weeks of downtime and countless hours of troubleshooting did Tryforos get her laptop back in good operating condition.

"At least they didn't charge me," she says cheerfully.

Laptop PCs

Again this year, notebook PCs were one of the most trouble-prone sectors of the high-tech world, with 30.9 percent of respondents reporting that they had encountered at least one significant problem with their laptop; the figure in our 2009 report was 31.8 percent (see find.pcworld.com/69383).

Apple once again earned the top marks in our survey, with above-average ratings in five categories and no below-average ratings. But Toshiba took over the second spot in our rankings, after having posted unspectacular results in last year's survey (eight average scores and one above-average score). This time, Toshiba chalked up four above-average ratings, all in measures of product reliability. For its part, Acer again showed strong results, with three above-average ratings and none below par (up from two above-average scores last year).

On the other hand, Dell took a rather startling tumble this year, from an upper-middle-tier ranking last year (featuring two better-than-average marks and one worse-than-average mark) to a finish near the bottom this time around (with one above-average score and four below-average scores).

HP retains its hold on the bottom rung, due to subpar marks on six of our nine reliability and service measures. HP did improve its standing on the "problem on arrival" criterion (the company was about average on that measure this time around). Unfortunately, instances where HP tech support failed to resolve a problem increased, leaving the company below average on that important service measure.

Desktop PCs

In our desktop PC ratings, Apple received better-than-average ratings on every question we polled users about—perhaps the best showing by any company in any product category in our survey. Meanwhile, Acer and eMachines repeated their shared (distant) second-place finish of a year ago, but with one above-average rating each instead of three each.

The big surprise this year was the improvement by Sony, which had been the worst performer in our desktops category last year, collecting three worse-than-average ratings and no better-than-average ones. This year, the tide turned in Sony's favor: The company received average marks on every measure for which we received enough data, except on the "any core component problem" criterion. On that measure, Sony earned an above-average rating.

At the bottom of the list, CyberPower, Gateway, and HP had pitiful scores. Gateway concentrated its three subpar ratings on service and support measures, while both of CyberPower's negatives came on reliability measures (the vendor didn't »

> **"We're trying to move to a leadership position in service and support, and that's taking a large investment and some time."**
>
> says Jodi Schilling, vice president of HP's American customer support operations

draw enough responses on the service and support criteria to receive ratings on them). HP's problems were more general: It collected four below-average ratings on measures ranging from general reliability issues to excessive hold times.

Even though laptops have tricky assembly issues, limited space for components, and various risks associated with being carried around, readers in this year's survey rated desktops as being significantly less reliable than laptops. Overall, users had 15 to 30 percent more problems with desktops than with laptops, depending on which reliability metric we asked about; the disparity may reflect vendors' efforts to cut all possible corners to keep desktop costs at rock bottom.

HDTVs: Sony Loses Its Traditional Edge, While Pioneer Rises to the Top

COMPANY	Reliability measures: Problem on arrival	Any significant problem	Severe problem	Ease of use	Overall satisfaction with reliability
Panasonic	◒	●	◒	●	◒
Pioneer	◒	●	◒	◒	●
Sharp	◒	●	●	◒	◒
Insignia	◒	◒	●	◒	◒
Samsung	◒	◒	◒	◒	◒
JVC	◒	◒	◒	◒	◒
LG	◒	◒	◒	◒	◒
Magnavox	◒	◒	◒	◒	◒
Philips	◒	◒	◒	◒	◒
RCA	◒	◒	◒	◒	◒
Sony	◒	◒	◒	◒	◒
Vizio	◒	◒	◒	◒	◒
Hitachi	◒	○	◒	◒	◒
Olevia	◒	◒	◒	○	◒
Toshiba	◒	◒	◒	○	◒
Westinghouse	◒	○	◒	◒	◒
Mitsubishi	◒	○	○	◒	○

BETTER

● Better ◒ Average ○ Worse NOTE: We received too few responses to rate these companies on quality of service.

HDTVs

The HDTV category saw a bigger shake-up in reliability and service results this year than any other category, with some of last year's top brands slipping and some of last year's also-rans moving to the fore.

Three of last year's reliability leaders—Sony, LG, and Samsung—saw their fortunes fade. Each had turned in numerous better-than-average scores in our 2009 report, but all three rated as merely average across the board in this study, leaving them jostling in the middle of the pack with such brands as Magnavox and Vizio. And Insignia, new to our report this year, bypassed all of those brands on the strength of one better-than-average rating.

The new champs? Panasonic, Sharp, and (in a major surprise) Pioneer. Earning two better-than-average scores each, Panasonic and Sharp simply maintained their ratings from last year while the previous leaders slid backward. Pioneer, however, leaped forward to tie them (after receiving all average ratings last year), and it garnered the only better-than-average mark in readers' overall satisfaction with their TVs. We were pleased to see JVC earn average scores across the board; last year it finished next-to-last, with three worse-than-average scores.

At the bottom of the HDTV heap, Hitachi, Olevia, Toshiba, and Westinghouse each turned in one subpar score, while Mitsubishi again landed in the cellar, with three below-average ratings (that showing is still better than last year's, when Mitsubishi accumulated four below-average ratings). Still, 20.6 percent of Mitsubishi owners reported problems that were severe enough to stop their TV set from work-

CAMERAS: Canon and Panasonic Share Top Honors as Fujifilm Fades

COMPANY	Reliability measures				
	Problem on arrival	Any significant problem	Severe problem	Ease of use	Overall satisfaction with reliability
Canon	◒	●	◒	◒	●
Panasonic	◒	◒	●	◒	●
Nikon	◒	◒	◒	○	●
Casio	◒	◒	◒	◒	◒
Fujifilm	◒	◒	◒	◒	◒
Olympus	◒	◒	◒	◒	◒
Pentax	◒	◒	◒	◒	◒
Sony	◒	◒	◒	◒	◒
Kodak	◒	○	◒	●	○
Samsung	◒	◒	◒	◒	○

● Better ◒ Average ○ Worse NOTE: We received too few responses to rate these companies on service quality.

ing. "Help me actually get my TV functioning again," says unhappy Mitsubishi owner Michael Lys of Northville, Michigan. "My $3000 TV is now basically useless; I know it was after the warranty expired, but it seems like such a waste."

To be fair to Mitsubishi, a significant number of the complaints we received in our survey came from owners of Mitsubishi rear-projection HDTVs whose bulbs had burned out. Those bulbs, our readers tell us, can run anywhere from $100 to $250 to replace, depending on the particular TV model.

The reliability of high-definition televisions seems to be improving overall, though not by leaps and bounds. Only 1.7 percent of users reported problems with their TVs when they first unboxed them this year, and 4.7 percent of users reported severe problems during the lifetime of their sets. The corresponding figures last year were 2.6 percent and 5.4 percent, respectively.

Digital Cameras

Was it a fluke? Last year Fujifilm astonished us with an unexpected top-drawer showing, ranking alongside Panasonic as the most reliable camera brand on the market. This year the camera rankings shifted: Fujifilm sank back into the middle of the pack, and traditional category powerhouse Canon returned to the top of the list, where it had been a stalwart in prior years.

This year's camera maker on the move was Nikon, which jumped from second-to-last in 2009's survey to third place this year, as users cited few problems on arrival and praised the brand's overall reliability. Though it didn't match the showings of Canon and Panasonic, Nikon would have come even closer to the top two this year if our survey respondents hadn't rated its cameras harder than average to use. (This rating isn't altogether surprising, however, since Nikon sells lots of sophisticated, high-end cameras with inherently more-complicated controls.)

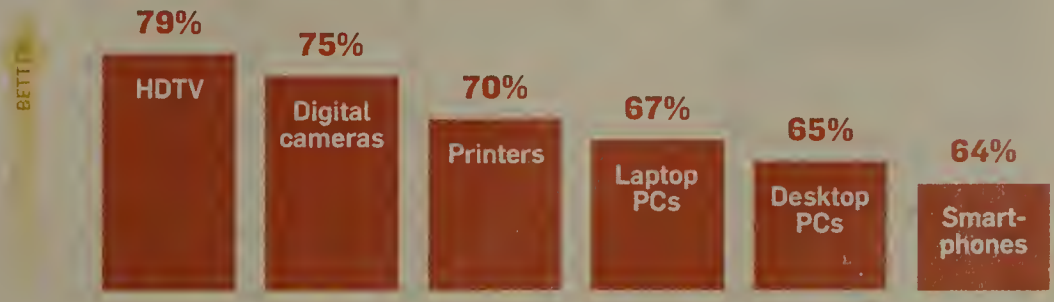
At the bottom of our rankings this year are Kodak and Samsung, both of which received worse-than-average scores for "overall satisfaction with reliability" compared to their peers in the camera market. Kodak owners report high satisfaction levels with their cameras' ease of use, but report a higher-than-average rate of significant problems. Samsung cameras don't incur any more actual problems than other brands, according to readers, yet owners of the cameras report lower-than-average satisfaction levels with the general reliability of the cameras.

Printers

In the printer category, the results of this year's study looked oddly familiar. That's because the reliability numbers for consumer printers were almost unchanged from last year (see find.pcworld.com/69384). For instance, in the new survey 7.0 percent of printer users reported severe problems with their machines, a statistical dead heat with last year's 7.2 percent.

The year-to-year data for individual printer manufacturers in our survey looks similar, too. Canon again sparkled, »

Readers Rate HDTVs Most Reliable Device



Based on the percentage of respondents who said they were highly satisfied, meaning that they rated the brand a 6 (very satisfied) or a 7 (extremely satisfied) on a seven-point reliability scale.

> **“Even people at HP’s service center didn’t know which ink would fit my printer.”**
>
> says Sherrell, a housewife and student from Memphis

with better-than-average ratings on seven criteria (last year Canon earned above-average marks on eight measures). For its part, Brother took some impressive strides upward, nabbing four better-than-average marks (up from just one the year before) and supplanting Samsung at number two.

This year, Samsung finished in a virtual tie with Epson, as both brands collected two better-than-average ratings. (Last year Samsung carded two above-average marks, and Epson one.) Notably, Samsung received the highest rating in the survey for ease of use, besting even Canon. Dell also made some laudable strides this year, transforming last year’s two below-average ratings into average ones across the board.

Kodak, however, experienced a downturn: Though owners of its printers felt good about Kodak’s tech support, they gave the printers poor marks for reliability. HP cemented its spot at the bottom of the chart with five below-average ratings, matching its performance in last year’s survey.

As in the past, however, HP’s poor reliability and service scores haven’t hurt its market share: Half of our respondents in the printer category remain HP customers…happy or not. ●

Survey Methodology

WE POLLED ROUGHLY 45,000 PCWorld.com readers who responded to e-mail messages. We used methods of statistical analysis to determine which companies were significantly better or worse than the average, based on all responses about a certain product type. Because our survey sample is heavily weighted toward generally tech-savvy readers, it may not be representative of the general population, which may have different expectations and experiences with technology products.

PRINTERS: Canon Leads, but Brother Advances to the Second Spot Overall

BETTER

COMPANY	Reliability measures					Service measures			
	Problem on arrival	Any significant problem	Severe problem	Ease of use	Overall satisfaction with reliability	Phone hold time	Average phone service rating	Problem was never resolved	Service experience
Canon	●	●	●	◒	●	●	●	◒	●
Brother	●	●	●	◒	●	n/a	n/a	◒	◒
Epson	●	●	◒	◒	◒	n/a	n/a	◒	◒
Samsung	◒	●	◒	●	◒	n/a	n/a	n/a	n/a
Dell	◒	◒	◒	◒	◒	n/a	n/a	n/a	n/a
Xerox	◒	◒	◒	◒	◒	n/a	n/a	n/a	n/a
Kodak	◒	○	○	◒	○	n/a	n/a	●	●
Lexmark	◒	◒	◒	◒	○	n/a	n/a	n/a	n/a
HP	○	○	◒	◒	◒	○	○	◒	○

●Better ◒Average ○Worse n/a = Not applicable; we received too few responses to rate the company on this measure.

ABERDEEN
SERVERS AND STORAGE

WHAT'S THE DEAL WITH THESE GUYS?

Sometimes you have to ask, "What are they thinking?"

Companies need to increase ROI without being taken to the cleaners by manufacturers selling servers featuring entry-level benefits with enterprise-level pricing.

Aberdeen gets it. Businesses are in desperate need of Network Attached Storage servers that simply deliver the best bang for the buck.

Look at these features and benefits:

	Dell PowerVault	HP StorageWorks	Aberdeen AberNAS
Hot-Swap Disk Drives	✓	✓	✓
Hardware RAID	✓	✓	✓
Dual Port Gigabit Ethernet	✓	✓	✓
Built-in Replication	✓	✓	✓
Microsoft® WSS 2008 Models	✓	✓	✓
iSCSI Target	✗	✓	✓
Linux Storage System Models	✗	✓	✓
System Recovery Disk	✗	✓	✓
DAS Storage Expansion	✗	✓	✓
VMware® Ready Certified	✗	✗	✓
Independent OS Drive	✗	✗	✓
Out of Band RAID Management	✗	✗	✓
Available w/ 2TB Drives	✗	✗	✓
Warranty	3 Years	3 Years	5 Years

Who gives you the best bang for the buck?

	Dell PowerVault NX300	HP StorageWorks X1400	Aberdeen AberNAS 163
Intel® Xeon® Processor	E5504 2GHz	E5504 2GHz	E5504 2GHz
Memory	3GB	2GB	3GB
Drive Interface	SATA	SATA	SATA
Installed Capacity	2TB	2TB	2TB
Rails	Included	Included	Included
Windows Storage Server 2008	$3,419	$4,635	**$2,995**
Linux Storage System	Not Available	Not Available	**$2,995**

Powerful.
Intelligent.

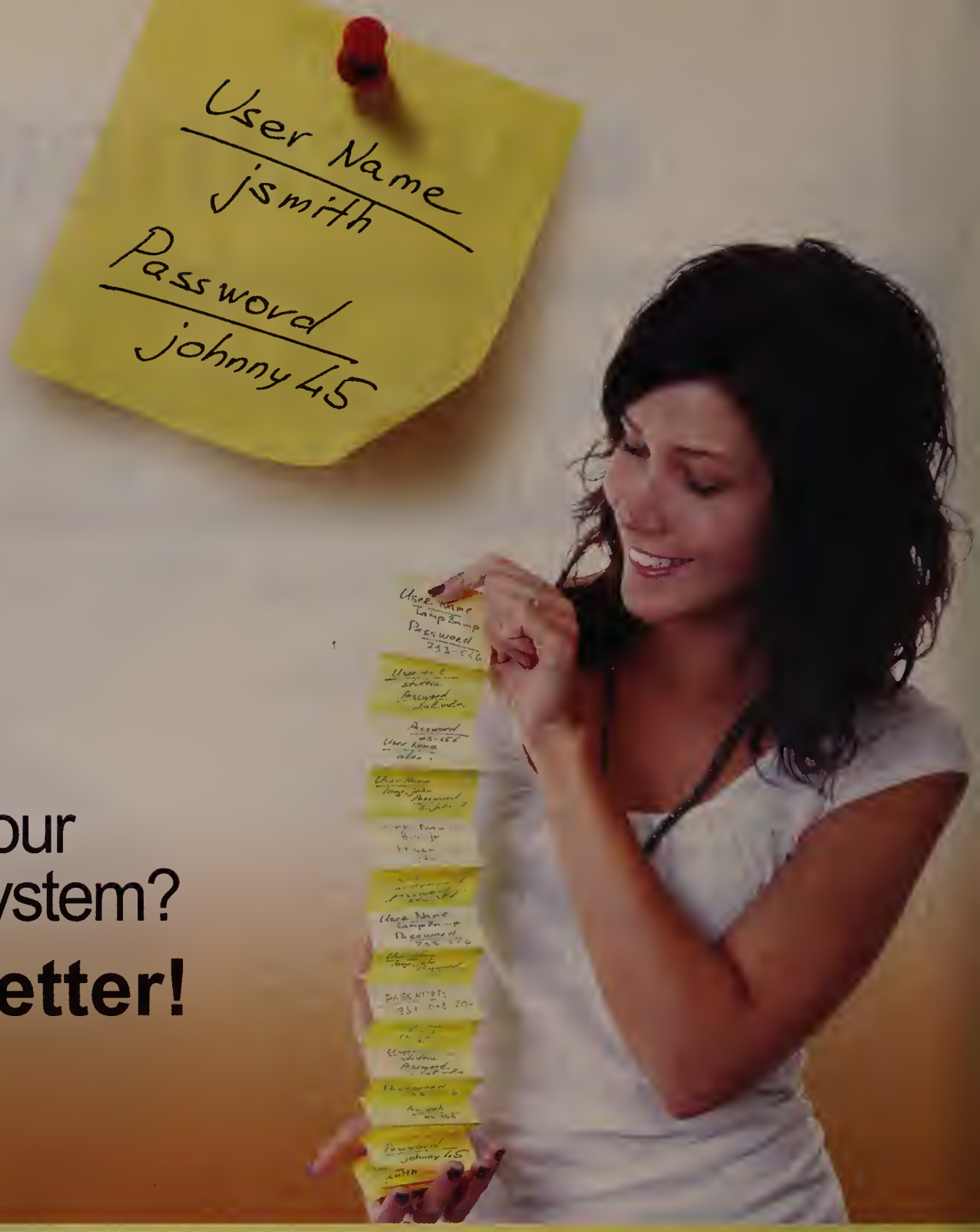
Prices for the above specific configurations obtained from the respective websites on Oct. 12, 2009. Intel, Intel Logo, Intel Inside, Intel Inside Logo, Pentium, Xeon, and Xeon Inside are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. VMware is a registered trademark or trademark of VMware, Inc. in the United States and/or other jurisdictions. For terms and conditions, please see www.aberdeeninc.com/abpoly/abterms.htm. pcw04

888-499-4771
www.aberdeeninc.com/pcw04

OVER 100 5 STAR RATINGS

PCWorld

"25 Products
We Can't Live Without"
March 2008



Is This Your Password System?

Ours is Better!

Amazingly **fast and easy to use**, **RoboForm automatically**:

- ✓ Remembers your usernames and passwords.
- ✓ Logs you into all your favorite websites.
- ✓ Reduces your many passwords to just one.
- ✓ Increases security and helps protect your identity.
- ✓ Fills long forms and so much more!

We've been saving you time and making your life easier since 1999. More than 26 million downloads, and **over 100 five star ratings** later we are by far the World's #1 Rated Password Manager.

RoboForm has earned prestigious recognition including PC Magazine Editors' Choice, CNET's Best Software of the Year, and PC World's **"25 Products We Can't Live Without."**

PC World Readers Download RoboForm for FREE!

RoboForm®

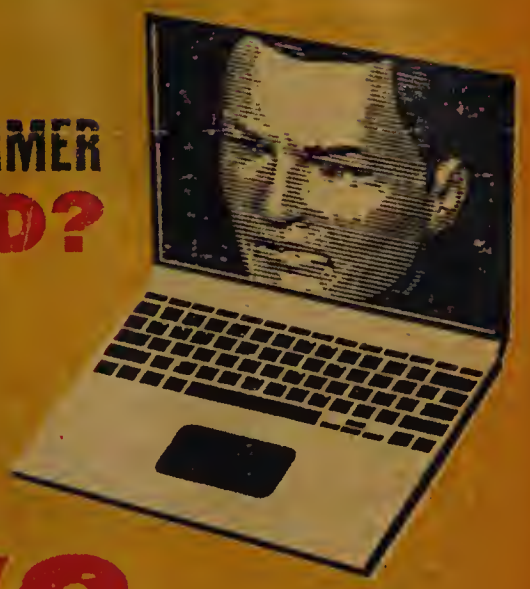
www.RoboForm.com/PCW

LAPTOP PRIZE FIGHT

BY JASON CROSS

LOOKING FOR THE BEST MOBILE PERFORMER POUND FOR POUND?

WE PIT NETBOOKS VS. ULTRAPORTABLES AND DESKTOP REPLACEMENTS VS. ALL-PURPOSE MACHINES



TO FIND THE PORTABLE CHAMPION

NETBOOKS VS. ULTRAPORTABLES

HP MINI 210

DELL VOSTRO V13

*** TALE OF THE TAPE ***

NETBOOKS	vs.	ULTRAPORTABLES
superior (6 to 10 hours)	BATTERY LIFE	good (4 to 6 hours)
very small and light (under 4 pounds)	WEIGHT	lightweight (3 to 5 pounds)
low ($300 to $500)	COST	varies ($500 to $1000)
poor	PERFORMANCE	mediocre

Portability is crucial to a netbook. Small and light with super battery life, netbooks (like HP's Mini 210 above, find.pcworld.com/69399) are meant to get you online when you're on the go. Most have one of Intel's Atom CPUs, which are more energy-efficient but far less powerful than the processors that larger laptops use. This is fine for checking e-mail, visiting Facebook, and tweaking business documents. Digital video and 3D gaming are not their forte.

With diagonal screen sizes of 9 to 11 inches, they offer limited resolution, so forget photo or video editing, large spreadsheets, or any other work that requires a fair amount of desktop real estate. The good news is that a small screen and an anemic CPU mean lots of battery life; a good netbook will run more than 6 hours between charges, and some models last almost 10 hours.

Think of netbooks as companion devices—something you'll pull out on the plane or in the classroom, or use to surf the Web from the comfort of a couch. Most models start at about $300; optional extras can increase the price to $500 or so.

Netbooks may be popular, but their low-power processors and tiny screens can make them hard to work with. Ultraportables (like the Dell Vostro V13 above, find.pcworld.com/69400) have larger screens—11 to 14 inches—and slightly more powerful CPUs. This shortens battery life, but an ultraportable will still outlast an all-purpose laptop; expect 4 to 6 hours of uptime. An ultraportable's (usually) integrated graphics are a step up from a netbook's, delivering smooth video playback and even some basic 3D games.

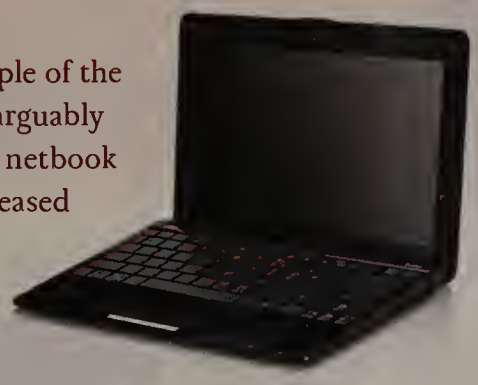
Pricing varies widely. Some ultraportables resemble large netbooks, with cramped keyboards and 11-inch screens, and may cost just a couple hundred bucks more than a netbook. Others are stylish and superthin, with bigger screens and full-size keyboards; they can set you back a pretty penny.

But new ultra-low-voltage CPUs for ultraportables are certainly more capable than the Atom CPUs in netbooks.

If you plan to use your laptop on the go quite a bit, but can't abide the limited power and screen size of a netbook, you should look to for a laptop in the ultraportable category.

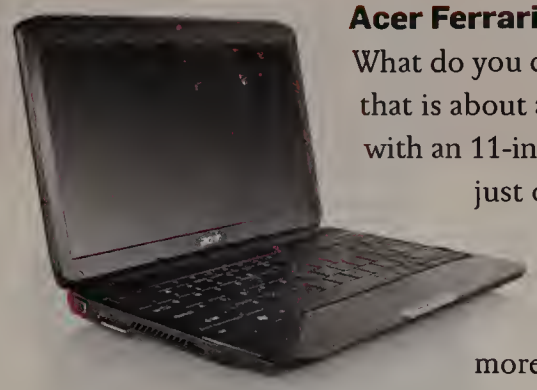
Winner: Ultraportables are probably the better choice for most users—you won't be so frustrated by slow-running apps.

Asus EEE PC 1005 PE



The Eee PC has been a staple of the netbook category, and is arguably the brand that started the netbook revolution. Asus's just-released 1005 PE uses Intel's new Atom N450 CPU and graphics combination, which should further improve battery life. With a 10-inch screen and a weight of less than 3 pounds, the Eee PC 1005 PE epitomizes what people think of when they think of a netbook. That includes fantastic battery life (possibly more than 10 hours of Web surfing) and, concurrently, a limited amount of RAM (1GB), which can hold back performance. Available early 2010.

Acer Ferrari One



What do you call a laptop system that is about an inch thick, comes with an 11-inch screen, weighs just over 3 pounds, and uses a low-voltage Athlon X2 processor? Is it a larger, more powerful netbook or a small, low-power ultraportable? The Ferrari One from Acer straddles the line. With up to 4GB of RAM and a decent AMD integrated graphics chip, it's snappier and more powerful than most netbooks; but don't expect more than 5 hours of battery life. And you can get it clad in any color—as long as it's Ferrari Red. find.pcworld.com/69385.

Dell Inspiron Mini 10

Dell offers the Inspiron Mini 10 at a very low starting price of $299, but the price goes up as you add nonstandard features to your unit. It's available in six colors, and you can opt for Windows XP or Windows 7 Starter (for $30 more), but you won't find a lot of customization options beyond that. Like many other netbooks, the Mini 10 is limited to 1GB of RAM. The keyboard—which is 92 percent of full size—is easy to type on, despite the netbook's diminutive size. Also, the Mini 10 uses a Z-series Atom processor, which provides stronger graphics than the Atom N-series does. find.pcworld.com/69386

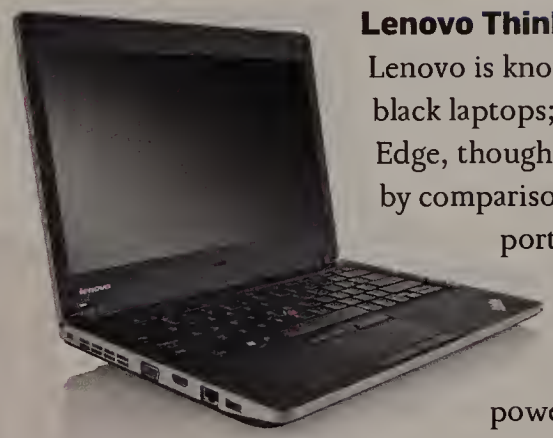
Sony VAIO Y

Sony's new VAIO Y Series laptops feature Core 2 Duo ultra-low-voltage CPUs and Intel integrated graphics in a slim, lightweight (under 4 pounds) chassis. The 13.3-inch LED-backlit screen has a resolution of 1366 by 768, which is a step up from what you'll find on most netbooks. Also standard is 4GB of 800MHz DDR3 RAM and a 500GB hard drive. You probably shouldn't expect all-day battery life from the VAIO Y's six-cell standard battery, but a larger eight-cell battery is available if you don't mind carrying a little more bulk and weight. find.pcworld.com/69391

MSI Wind U135

MSI's popular Wind brand, like the Eee PC from Asus, helped popularize the netbook category. Besides adding an Intel Atom N450 processor, the new U135 model includes such design tweaks as a bigger trackpad and an improved keyboard. And the Wind U135 has one significant advantage over many other netbooks: It's available with up to 2GB of RAM. Prices for MSI's new model start at $329—less than for the Eee PC 1005 PE—but the battery is smaller, so you'll get a few hours less life out of it before you must recharge. find.pcworld.com/69394

Lenovo ThinkPad Edge



Lenovo is known for its boring black laptops; the new ThinkPad Edge, though, is sleek and stylish by comparison. It's a larger ultraportable, with a 13-inch screen, but it still comes in at only 3.5 pounds. It's powered by Intel's dual-core ultra-low-voltage (ULV) processors, which are markedly more powerful than the Atom CPUs found in netbooks. Battery life, as with most ultraportables, is better than that of full-size notebooks but not as good as that of the best netbooks. The keyboard feels great—a typical feature of Lenovo notebooks—and you get both a touchpad and a TrackPoint "eraser nub." find.pcworld.com/69387 »

DESKTOP REPLACEMENTS VS. ALL-PURPOSE MACHINES

ACER ASPIRE 8940G

DELL INSPIRON 14

*** TALE OF THE TAPE ***

DESKTOP REPLACEMENTS	vs.	ALL-PURPOSE MACHINES
large, great for gaming and media (17 to 18 inches)	SCREEN	good size and resolution (13 to 16 inches)
heavy (8 to 12 pounds)	WEIGHT	varies with selection of options (5 to 8 pounds)
expensive ($1000 to $2500)	COST	varies ($600 to $1500+)
superior	PERFORMANCE	varies

Desktop replacements (such as the Acer Aspire 8940G above, find.pcworld.com/69401) are laptops in name only: You wouldn't want to tote one around or use it on your lap. With screen sizes that start at 16 inches but more commonly measure 17 or 18 inches, these are big, powerful, heavy notebook PCs that are more "luggable" than "portable."

You can get a large-screen desktop replacement notebook for less than $1000, but what's the point of having such a big laptop if you aren't going to opt for a more powerful CPU, a dedicated graphics card, and a big hard drive to put in it? Of course, all of that power and those big screens come at a cost. If you play a lot of the latest PC games, edit video, or perform intense computations, you already know that you'll be shelling out for a big screen and capable hardware. As a bonus, you'll almost always get a full-size keyboard with a numeric pad.

If you ever need to use your laptop away from a wall socket, look elsewhere. Not only are these large and heavy laptops a pain to carry around, but their battery life stinks.

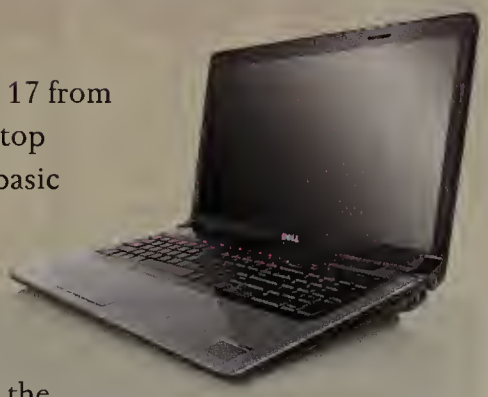
All-purpose laptops (like Dell's Inspiron 14 above, find.pcworld.com/69402) offer a vast array of choices. With screens from 13 to 16 inches, models in this category can match any need or budget. You can purchase a smaller system with a modest CPU, integrated graphics, and a basic design for less than $800. Or you can spend nearly $2000 for a system with a fancy screen (even a touchscreen), a Blu-ray drive, a fast quad-core CPU, and a powerful discrete graphics chip. The latter will do everything a desktop computer does, including playing the latest 3D games and high-def videos—but it will also hurt your pocketbook and maybe your back.

Whether you go for the low end or splurge on the works, you can expect your all-purpose laptop to be portable enough to carry around for short periods of time, and to deliver enough battery life to take notes in one or two meetings or entertain you during a fairly short flight. As long as you don't need massive battery life or supreme portability, you can find an all-purpose laptop that will fit your needs. The hard part is choosing among all the options!

Winner: All-purpose laptops offer so much choice and flexibility that it's hard to recommend a desktop replacement unless you truly need to move from a powerful (but immobile) desktop PC to something that you can more easily move around.

CONTENDERS

Dell Studio 17



You could call the Studio 17 from Dell an "entry-level" desktop replacement laptop: The basic model starts at just $599. That price gets you a dual-core Intel processor, but you can spend more to step up to the mobile Core i7 quad-core chip. You can also opt for discrete ATI graphics instead of the Intel integrated stuff, and you can boost the standard 4GB of RAM up to 8GB. Even fully loaded, the system shouldn't cost more than around $1500. New this spring is a multitouch display option, making this laptop the first Dell to offer such a feature. find.pcworld.com/69388

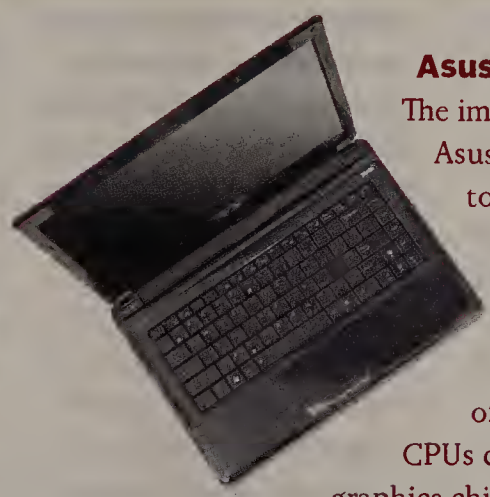
Fujitsu LifeBook T900

You might think that a starting price of $1889 for a 13-inch laptop is excessive, but Fujitsu's LifeBook T900 tablet PC is packed with features. The most notable of these is the reversible multitouch screen (with an optional active/capacitive dual digitizer). The modular bay can hold an optical drive, a second hard drive, or a second battery. With a smart-card slot and VPro virtualization support, this is a flexible, no-compromise tablet that even your IT manager could love, despite its price. find.pcworld.com/69392

Alienware M17x

Alienware's M17x targets gamers who don't want to compromise on laptop quality. The 17-inch screen supports extremely high resolutions (up to 1920 by 1200). The machine is available with various speedy Core i5 and i7 processors, and you can configure it with one or two Radeon Mobility HD 4870 graphics chips and up to 8GB of RAM. You can even opt for two hard drives in a RAID 0 arrangement to obtain extra speed. The downside? The aluminum chassis pushes the weight up to at least 12 pounds, and the model starts at $1799 and goes up from there. find.pcworld.com/63459

Asus K42F



The impending 14-inch K42F is Asus's first all-purpose laptop to feature Intel's Core i3 and i5 CPUs, which can reach speeds of up to 2.4GHz. The K42F also comes loaded with up to 8GB of RAM. The Core i3 and i5 CPUs contain a new integrated graphics chip from Intel that distinctly improves on previous Intel graphics. Options include a Blu-ray drive, a larger (500GB) hard drive, and an expanded eight-cell battery. At just under 5 pounds with the standard six-cell battery in place, it's not especially bulky, and it offers good performance for around $1000. Available early 2010.

Asus R.O.G. G73Jh

The sleek matte black exterior of the G73Jh, part of Asus's Republic of Gamers line, is "inspired by the Lockheed F117A Nighthawk Stealth Fighter." The laptop's components will inspire high-performance enthusiasts. Asus pairs Intel's Core i7 notebook CPU with 8GB of fast DDR3 RAM and a Mobility Radeon HD 5870 graphics card loaded with 1GB of RAM for blistering game performance. Two 500GB hard drives in a RAID 0 array provide a full terabyte of storage, and a unique ventilation system draws air in the front and exhausts it out the back to keep the palm rest and keyboard area cool. Available early 2010.

Toshiba Satellite M505

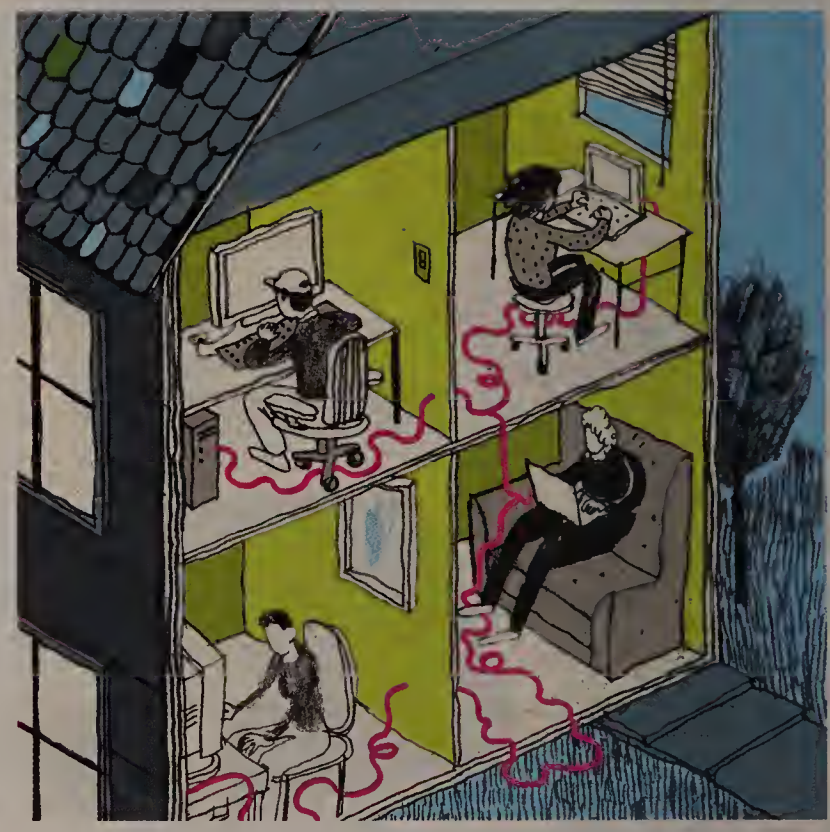
Starting at about 5.1 pounds, this new version of the M505 (it succeeds last summer's M505-S940) is an average-size laptop that highlights such media features as Harmon-Kardon speakers and a 1366 by 768 screen resolution. You can get the M505 with Intel Core i3, i5, or i7 processors, or an AMD M520 CPU. Toshiba lets you upgrade the integrated Intel or AMD graphics to nVidia discrete graphics for better 3D performance. If you're interested in Windows 7's touch features, you can go for an optional multitouch screen. How much you get depends on how much you want to spend over the $699 base price. find.pcworld.com/69393

Here's How

Set Up a Multiplatform Network in Windows 7

Here's how to get your Windows 7 computer to share printers and files with Windows XP and Windows Vista PCs—and even with Macs.

BY ZACK STERN



WINDOWS 7'S NEW Homegroups feature simplifies sharing files and printers on a network, by letting you connect to files and printers with a group password—but only if all of the PCs have Windows 7. I'll explain how to get a Windows 7 PC to play nicely on a network with Macs and XP/Vista PCs.

Set Up Windows 7 to Share a Printer

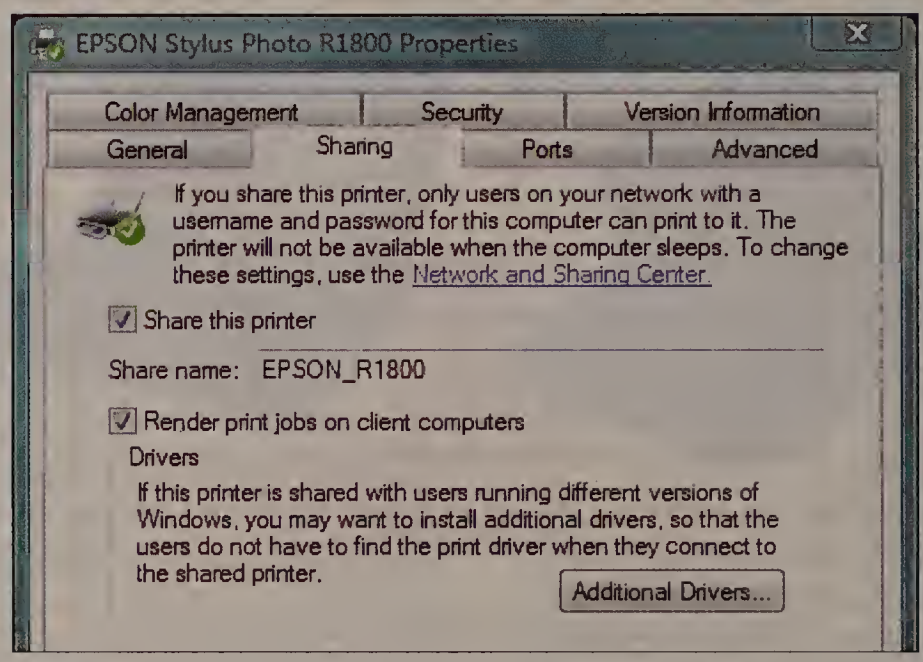
Windows can share a printer with other systems on your network, so everyone in the house or office can connect if your printer and PC are on. Here's how to set it up in Windows 7.

Open *Devices and Printers* from the Start menu, and double-click your printer. Choose *Customize your printer*, and click the *Sharing* tab in the next window. Select the *Share this printer* checkbox.

Unless you're connecting a bunch of similar PCs, I recommend skipping the option to download additional printer drivers on the host system. Just take a moment to configure everything once on each client. With different combinations of 32- and 64-bit Vista, Windows 7, and XP, it's more hassle to try to plan ahead here. Approve the options and close the Properties window.

Share a Printer From Either XP or Vista

Connecting your Windows 7 PC to a printer on an XP or Vista system requires you to configure those operating systems. In Windows Vista, open the *Printers* control panel, and right-click your printer. Select *Sharing•Change sharing options*, click *Continue*, and choose *Share this printer*. Click *OK*. In XP, open the *Printers and Faxes* control panel, right-click your printer, select *Share this printer*, and finish by clicking *OK*.



KEEP THE PRINTER name short and without spaces for broader OS support. Check the second box to offload some print processing to sharing systems.

Connect to a Shared Printer in Windows 7

Here's how to share a printer with your Windows 7 PC, whether the computer connected to the printer runs Windows 7, Vista, or XP.

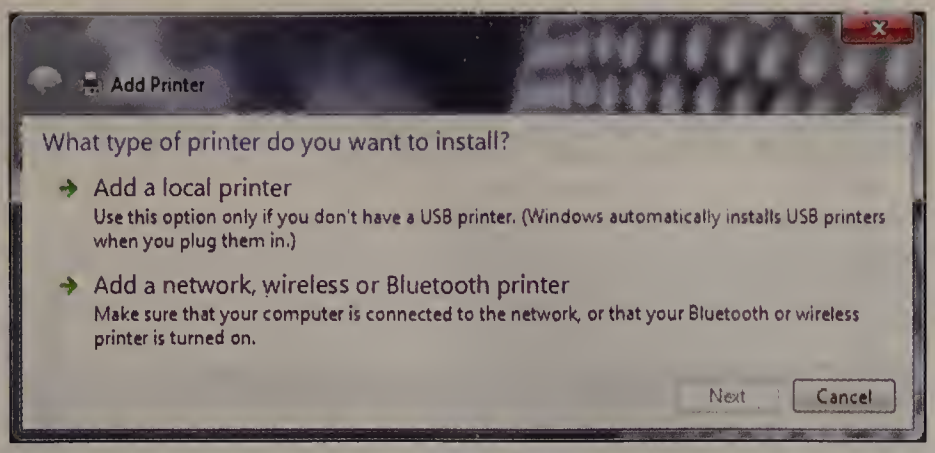
In Windows 7, open *Devices and Printers* from the Start menu, and select *Add a printer*. Click the second option to add a network printer, and choose your printer from the list. Click *Next*, and wait for the printer driver to be located. Make it the default printer if you wish, and click *Finish*.

Windows 7 couldn't automatically locate the printer driver for my aging-but-strong Epson Stylus Photo R1800 on my network. If you face the same problem, manu-

ILLUSTRATION JOSH COCHRAN

ally download the driver from the printer company's Website, and browse to it when prompted.

If that doesn't work either, try installing the printer driver before connecting to the network printer. After I did this, Windows 7 reached my network printer smoothly.



CLICK THE SECOND button in Add Printer to step through the wizard screens.

Connect to a Windows 7 Printer Through Either XP or Vista

After installing a printer on a Windows 7 system, you can still connect via XP or Vista.

In XP, open the *Printers and Faxes* control panel. Choose *File•Add Printer*, and click *Next*. Click the button to add a network printer, and click *Next*. Click the *Connect to this printer* button, and type the path to the network printer.

For example, the PC I have linked to the printer is called 'SLOTH', and the printer is called 'EPSON_R1800', so the printer path I typed was **\\SLOTH\EPSON_R1800**. (If you are unsure of your path, open a new window on the Windows 7 PC, and open the *Network* menu on the left. Browse to your PC name, and locate the printer there to identify the PC and printer name.) On the XP system, click *Next*.

Enter your username and password for the Windows 7 PC. If you want to connect automatically in the future, leave the *Remember my password* box checked. Click *OK*, and then click *Yes* in response to the warning that follows. If the printer driver doesn't download automatically, try to identify or install it manually, as detailed in the previous section.

Decide whether you want to use this as the default printer; if you do, select that option. Click *Next*, and then choose *Finish*. Henceforth, whenever you need to print a document, simply select the network printer from the Name drop-down menu.

In Vista, open the *Printers* control panel, and double-click *Add Printer*. Pick the second option to add a network printer, and click *Next*. Vista should find the printer. Select it, and click *Next*.

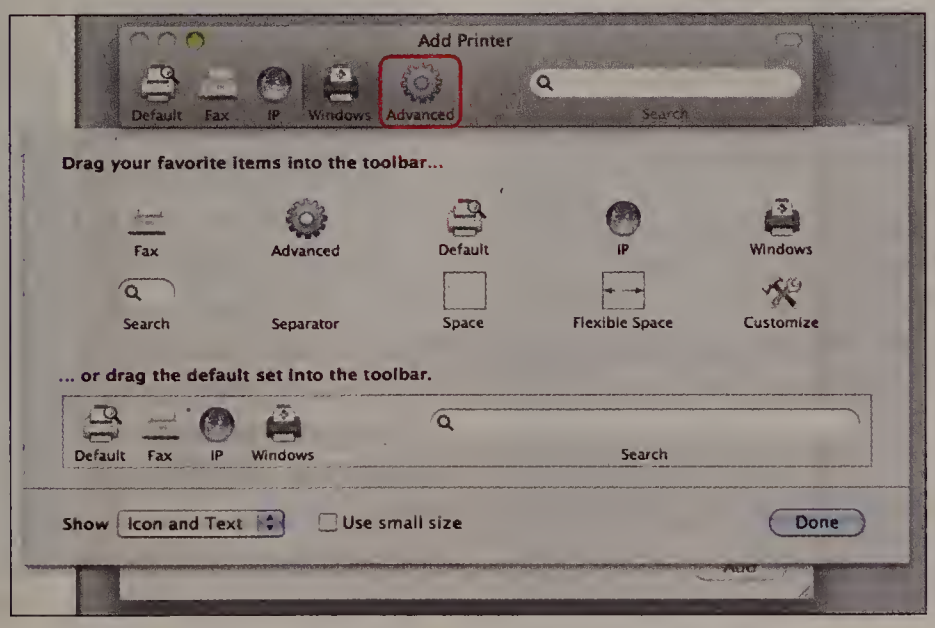
If a dialog box warns you that you're missing printer drivers, click *OK*, and then browse to the driver files. If you still have problems, install the printer drivers before trying to set up the network printer. Otherwise, decide whether to set the new printer as your default, and click *Next* and *Finish*.

Share a Windows 7 Printer With Mac OS X

Mac OS X can reach a shared Windows 7 printer just as a PC can. I had problems connecting a 10.6.2 Mac with the default SMB protocol due to some new networking architecture in Windows 7, but here's how to use the LPD (Line Printer Daemon) standard to share a printer.

On the Windows 7 PC, open the *Programs* control panel, and select *Turn Windows features on or off*. Double-click *Print and Document Services*, and activate *LPD Print Service*. Then click *OK*.

On the OS X Mac, open the *Print & Fax* system preference. Click + (the plus icon) to add a new printer.



OS X HIDES the Advanced menu. Drag it into the toolbar for future use.

Right-click the toolbar, and select *Customize Toolbar*. Drag the *Advanced* button into the toolbar, and click *Done*.

Click *Advanced*, and choose *LDB/LPR Host or Printer* as the Type. Enter the path with your PC name and printer name. My Windows 7 PC is called 'SLOTH', and the printer is 'EPSON_R1800', so my path is **lpd://SLOTH/EPSON_R1800**. In the Print Choosing pop-up menu, click *Select Printer Software* and choose your printer from the list. Finish by clicking *OK* and *Add*.

Share a Mac Printer With Windows 7

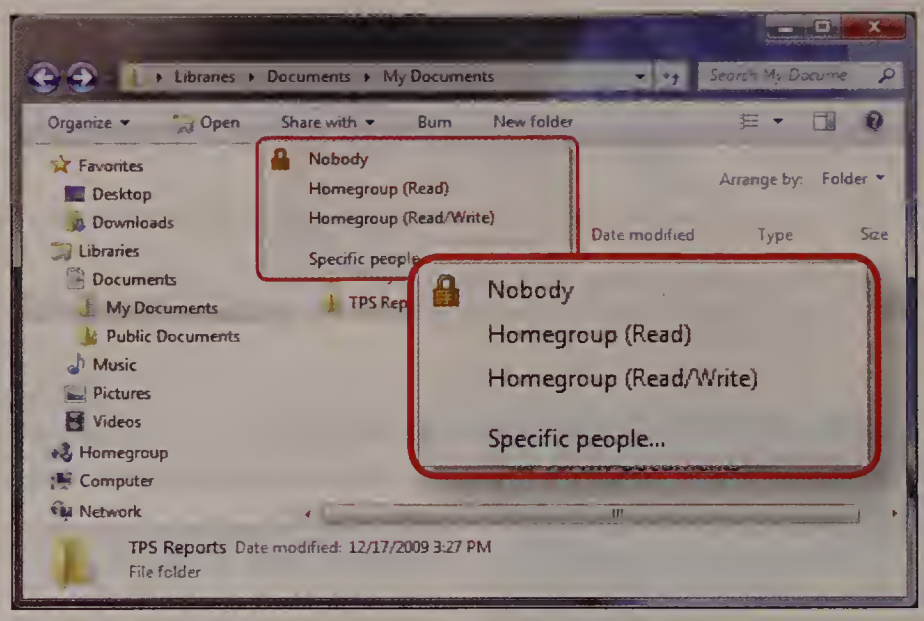
Windows 7 can connect to a Mac OS X printer over the network. On the Mac, open the *Sharing* system preference, and pick *Printer Sharing*. Select your printer.

On the Windows 7 PC, select *Start•Devices and Printers*, and click *Add a printer*. Next, choose *The printer that I want isn't listed*. Enter the pathname back to your Mac and printer. My Mac is named 'Felix', and the printer is an Epson Stylus Photo R1800, so I entered the path **\\Felix\Epson Stylus Photo R1800** and clicked *Next*. Follow the prompts to finish the installation, as if you were installing a network printer linked to a Windows system.

Set Up Windows 7 to Share and Connect to Files

Windows 7 lets you share files through a combination of its public folders and manual selection. »

Here's How



PICK AN ITEM to share, and use the 'Share with' menu to put it on the network. Then select a Homegroup type to permit reading only, or reading and editing.

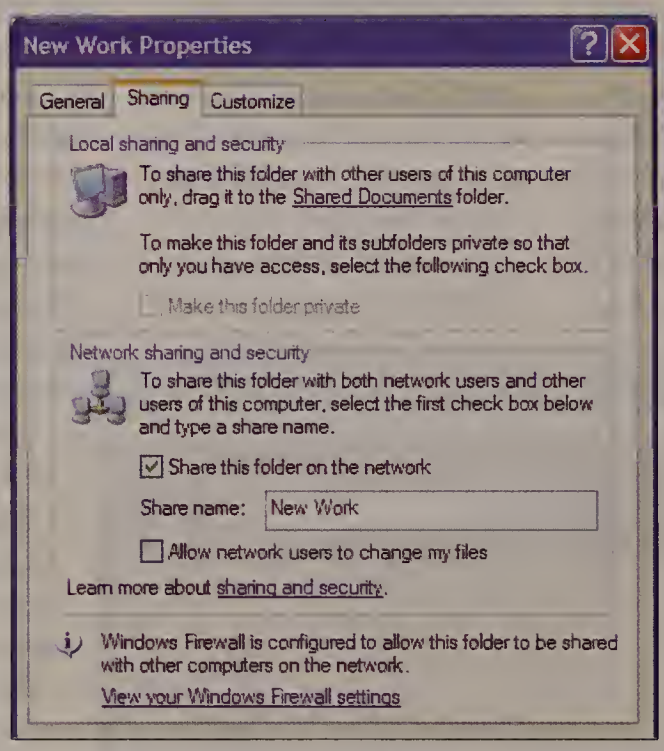
If you want to share files with everyone on your network, simply move them to the public location within any of the Libraries in the left pane of a window.

Alternatively, you can share files or folders wherever they happen to reside. Start by selecting an item to share, and then click the *Share with* menu at the top of the window. Choose *Homegroup (Read)* to let people on your home network open but not modify files. Select *Homegroup (Read/Write)* to let people open and edit files.

Pick *Specific people* if you want to restrict access to certain user accounts. If you haven't already done so, you'll need to create a new login and password for each person to whom you intend to grant access to these files. To accomplish this, first open the *User Accounts and Family Safety* control panel, and select *Add or remove user accounts*. Click *Manage another account*, and choose *Create a new account*. Follow the resulting prompts to create a Standard user. Choose the account, and click *Create a password*. To add that new account to the sharing list, select *Share with•Specific people*, click the drop-down arrow, and make the selection.

Next, try connecting to another system's shared files. If your PC is in the same Homegroup as another Windows 7 PC, open a new window and look in the Homegroup area on the left. Choose the PC, and browse the shared libraries inside. (For more information on setting up a Homegroup, see find.pcworld.com/64321.)

Alternatively, if the other PC isn't connected through a Windows 7 Homegroup, you can find it by browsing through the Network option, which is located a bit farther down on the left pane.



CLICK THE CHECKBOX for 'Share this folder on the network', and then type a 'Share name' to share a folder.

Set Vista and XP to Share Files

Here's how to prepare Windows XP and Vista to share files with a Windows 7 PC.

In Windows XP, to share files on the network, drag them into the Shared Documents folder. Or activate sharing manually at the file locations: Right-click the folder or file that you want to share, select *Sharing and Security*, and check the *Share this folder on the network* box. To enable others to add or modify content, check the *Allow network users to change my files* box. Click *OK*. To turn off sharing, open that same menu and then uncheck the box.

In Vista, you can copy files to your Public folder to share with anyone on the network. To share items selectively, right-click the file or folder, and choose *Share*. From the drop-down menu, select the user account for each person who should have access. Click *Share*.

To retrieve files that a Windows 7 system hosts, use the Network browser within XP or Vista.

Share Files Between Mac OS X and Windows 7

An OS X Mac can share or retrieve files with Windows 7, though setting this up takes a couple of extra steps. Here's how.

Open the *Network* system preference, find and select your network connection in the left pane, and click *Advanced*. Select the *WINS* tab, type your Windows 7 PC's workgroup name, and click *OK*. Click *Apply*.

Open the *Sharing* system preference, and check the *File Sharing* checkbox. Click *Options*, and select the *Share files and folders using SMB (Windows)* checkbox. Check the box to enable sharing for your user account. To add more locations, click + (the plus icon) below the Shared Folders box.

On the Windows 7 system, if your Mac doesn't appear in the Network area, type the Mac's computer name into your Windows file browser. For example, my shared Mac is named 'Felix', so I typed **\\Felix**. Enter your username and password to connect to the files.

You can browse shared Windows 7 files in OS X, too. On the Mac, go to the Finder, choose *Go•Connect to Server*, and enter the remote PC's SMB file path. Since my Windows 7 PC is named 'SLOTH', I typed **smb://SLOTH**. Enter your login name and password, and you're done.

Unleash the Power Potential of Google Android

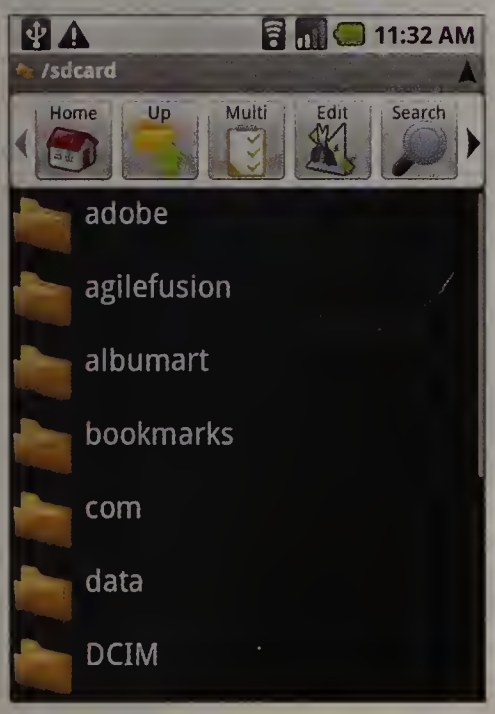
Take your smartphone experience to the next level with these 36 tips and tricks for using your Android handset.

UNLIKE APPLE'S iPhone, Android is open source, fully customizable, and free from unexplained app rejections.

Here are 36 ways to make the most of your Android phone. Some are specific to Android 2.0 or later, but most apply to any Android-based device—no jailbreaking required. For more tips see find.pcworld.com/64291.

Optimize Your Home Screen

1. Use screen space effectively with widgets—dynamic programs that operate on your home screen. Hold your finger on any open space, and then select *Widgets* from the pop-up menu. Widgets have many sizes and functions, so search the Android Market (www.android.com/market) to find what works for you.



ASTRO LETS YOU browse through your phone as you would a PC.

2. Don't want to hear an alert every time e-mail arrives? Open Gmail's Settings menu and set its ringtone to *Silent*. You'll still see new-message alerts in the notification panel at the top of your screen, and you can pull the panel down to get detailed data. You can configure text messaging and other alert-generating apps in the same way.

3. Set up one-touch dialing for the people you call the most. Just hold your finger on an open space and select *Shortcuts*. Touch *Direct dial* and pick the person from your contact list. For one-touch texting, use the *Direct message* option instead.

4. To drop any Web page onto your home screen, long-press on the site in your browser's bookmarks and select *Add shortcut to home*.

5. Use folders to keep your home screen organized. To create a folder, long-press on a blank space and select *Folders*. Then drag and drop contacts, apps, or other shortcuts into the folder to reduce clutter. To rename a folder, press and hold the folder's title bar while it's open.

Get Around Android

6. For better file management, use a utility such as Astro (find.pcworld.com/64292), which lets you browse over your phone just as you would over a computer, navigating directories and moving or deleting files at will.

TO ADD A widget to your home screen, hold your finger on any open space, and select 'Widgets' from the pop-up menu.

7. Need to cut and paste text? Long-press on any text input area. If you are on a Web page, tap the *Menu* key and choose *Select text*.

8. Use Android's hotkeys to do anything from zooming in to a Web page to opening a program. For a full list of Android keyboard shortcuts, see find.pcworld.com/64293.

9. To set your own hotkeys to open apps, go to the main Settings menu, first select *Applications*, and then choose *Quick Launch*.

10. If the on-screen keyboard pops up uninvited, touch it and swipe downward to make it vanish.

11. To see the current date at any time, touch your finger to the top-left corner of the screen.

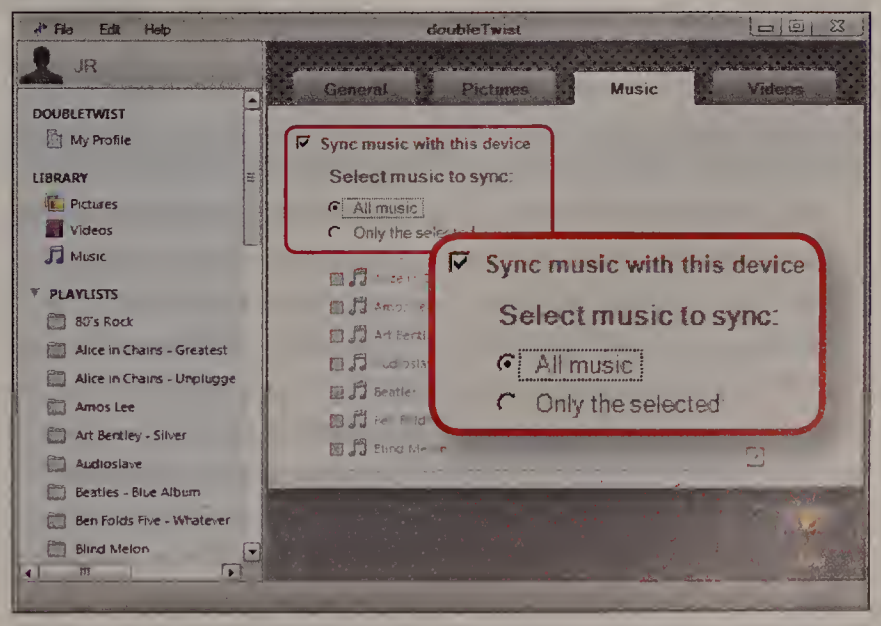
Stay Connected

12. To load files onto your Android phone, plug the handset into your PC and pull down the notification panel. Tap the *USB connected* box, and tap *Mount* when the confirmation dialog box appears. Your PC will show the phone as a hard drive; simply drag and drop files as you wish.

13. Manage your music and even import your iTunes playlists with DoubleTwist (find.pcworld.com/64294), a free PC-based utility with a trim and intuitive interface.

14. Sync your Outlook calendar with your phone, easily. Install Google Calendar Sync (find.pcworld.com/64295), and let it take care of things.

15. Sync your Outlook »



MANAGE YOUR MUSIC and import iTunes playlists with DoubleTwist.

contacts without an Exchange server, using GO Contact Sync (find.pcworld.com/64296), an open-source PC utility.

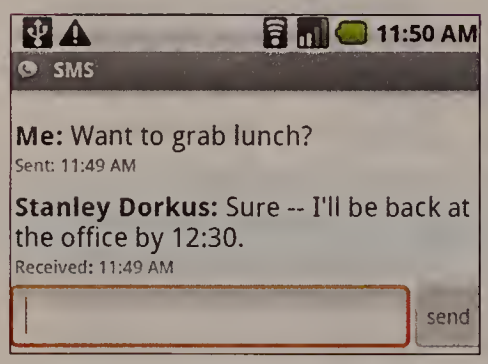
16. Stay on top of your news feeds with NewsRob (find.pcworld.com/64297), an app that syncs your phone with your Google Reader account.

17. To import PC browser bookmarks into an Android phone, download MyBookmarks (find.pcworld.com/64298).

Power Up Your Phone

18. For extra calling power integrate Google Voice into your phone. After signing up for an account, download the official app (find.pcworld.com/64299). **Bonus:** Add a Google Voice widget to your home screen so you can toggle your outgoing-call preferences.

19. Send text messages for free through Google Voice,



YOU CAN SEND text messages for free through Google Voice.

but change the settings to refresh every 5 minutes so that incoming messages won't be delayed. For faster notification, log in to the Google Voice site and configure your account to send you e-mail alerts as new texts arrive.

20. Get unbilled talk time with Fring (find.pcworld.com/64300), a free mobile chat client for Android that works over Google Talk, Skype, or any SIP calling service.

21. Use the free Dial Zero (find.pcworld.com/64301) to bypass phone trees and reach human reps at firms you do business with.

22. Route annoying callers directly to your voicemail. Open the offending person's profile in your contacts list; then press the *Menu* button, tap *Options*, and check the *Incoming calls* box.

23. The Incoming Calls screen lets you set custom ringtones for callers, too. Tap *Ringtone* and change each tune as you wish.

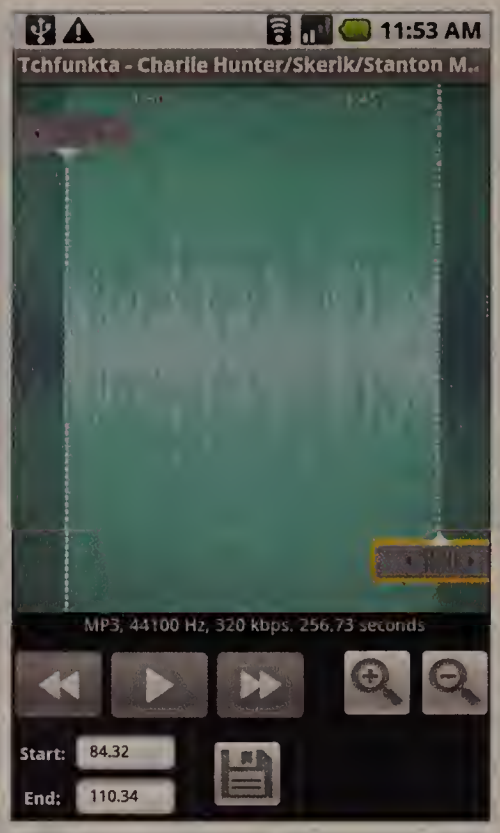
24. To use your own MP3 files as ringtones, make a new folder on your memory card and name it **ringtones**. Copy your MP3s there, and they'll automatically show up in your selection list. Folders called **alarms** or **notifications** will function similarly.

25. Use the free app Ringdroid (find.pcworld.com/64302) to grab a segment of an MP3 file for a ringtone or system sound.

26. Android lets you keep multiple browser windows open at once. Long-press any Web link to open it in a new window. Tap the *Menu* key within the browser to toggle between windows.

27. Prefer to see Web pages in landscape mode? To tell Android to show all sites that way, select the *Landscape-only display* checkbox in the browser's *Settings* menu.

28. For an alternative to Android's built-in browser, try Dolphin Browser (find.pcworld.com/64303). Features include tabbed browsing, gesture-driven commands, and multitouch zooming.



RINGDROID LETS YOU grab a piece of a song for your ringtone or system sound.

Secure Your Phone

29. Protect your phone by requiring a finger swipe across the screen in a specific pattern to unlock it. Look for *Screen Unlock Pattern* under 'Location and Security' in the main System Settings menu.

30. Back up phone data with MyBackup (find.pcworld.com/64304), which saves apps, contacts, call logs, texts, and settings to an SD Card or to a secure Internet server. SMS Backup (find.pcworld.com/64305) periodically saves your texts to your Gmail account.

31. For extra protection, download Mobile Defense (find.pcworld.com/64306), an app that lets you use a PC to track your phone via GPS, remotely lock it, and back up and wipe its data.

Add Essential Apps

32. The free version of Documents To Go (find.pcworld.com/64307) allows you to view Word and Excel files. The paid version adds editing capabilities, and PDF and PowerPoint viewing options.

33. Prefer to work in the cloud? GDocs (find.pcworld.com/64308) and ThinkFree Office Mobile (find.pcworld.com/64309) make it a cinch to connect with your Google Docs documents.

34. For basic note-taking, download GDocs Notepad (find.pcworld.com/64310), a PC-synced notepad that saves documents directly into your Google Docs account.

35. For on-the-go photo editing, try Adobe's free Photoshop.com Mobile app (find.pcworld.com/64311).

ADOBE'S FREE Photoshop.com Mobile app permits on-the-go editing.

36. TuneWiki (find.pcworld.com/64312) finds and scrolls lyrics next to your songs as they play on your phone.

—JR Raphael

Get Comprehensive Details About Your PC

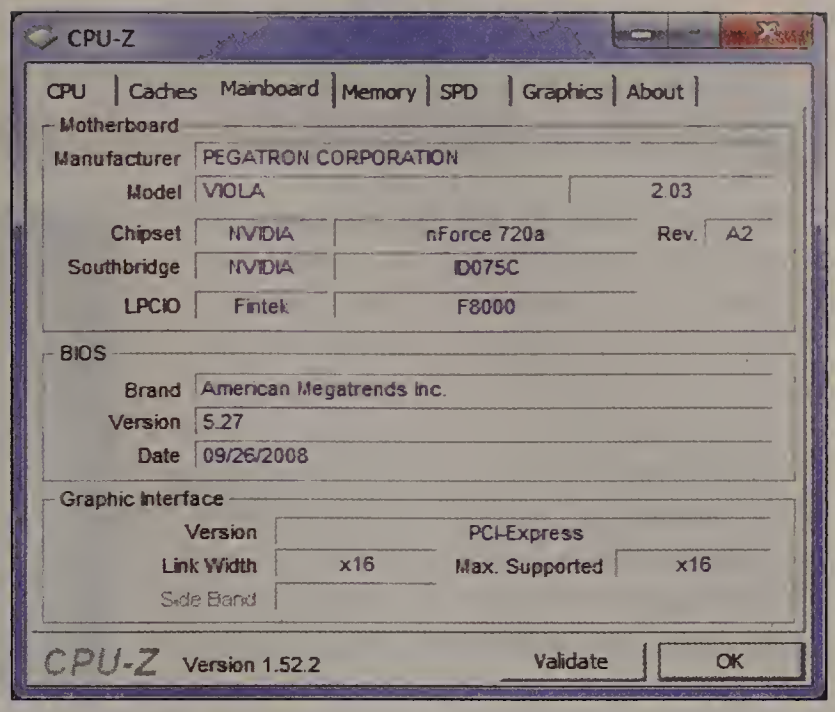
I'M HAVING AN ongoing, maddening problem with my iPhone: It refuses to sync properly with my PC, which I recently upgraded to Windows 7. For a while I imagined that a compatibility-mode feature I've discussed elsewhere (find.pcworld.com/64280) had done the trick—but alas, it had not.

I've read here and there that a known issue plagues Windows 7, Gigabyte motherboards, certain Intel chipsets, and iTunes, so maybe that's the culprit? But first, how do I find out what kind of motherboard and chipset are inside my PC?

Enter CPU-Z (find.pcworld.com/64319), a utility that reveals all sorts of information about your hardware: the CPU, the BIOS brand and version, the RAM amount and speed, and so on—just the kind of data you might need when trying to troubleshoot a sticky problem.

Of course, CPU-Z can come in handy for more-mundane tasks as well, such as figuring out what kind of memory to buy when you're upgrading your system.

A quick check of the Memory tab, for instance, reveals that my PC has 400MHz, dual-channel, DDR2 RAM.



WANT TO KNOW the make and model of your motherboard? CPU-Z reveals that information and a whole lot more about your system.

And the SPD tab shows me what's in each memory slot. On my system, slots 1 and 2 each have a "1024 MByte" (aka 1GB) Samsung PC2-6400 module. Perfect: Now I know to buy two more modules just like that to bring my system total to 4GB.

For detailed information about your PC's inner hardware, CPU-Z can't be beat. And it's a freebie to boot.

—Rick Broida

What portable diagnostic programs do you keep on your flash drive?

—Andy Ludlum

HERE ARE MY favorites. All six programs are portable—so you don't have to install them to run them—and free for personal use.

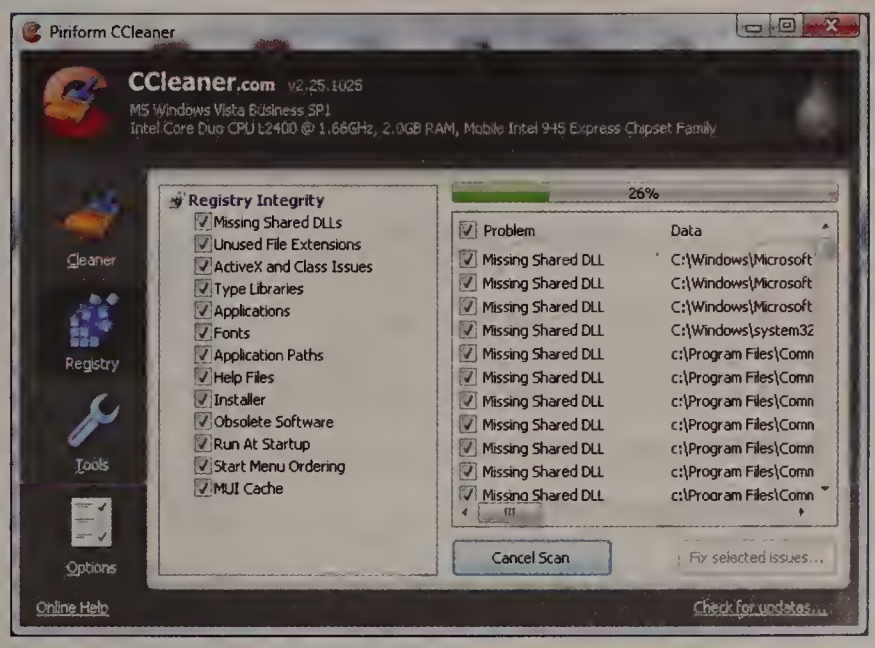
CCleaner: The portable version of Piriform's Registry cleaner and repair tool finds and deletes broken items in the Windows Registry, cleans out bits of Internet Explorer that might compromise your privacy (such as the cache and cookies), deletes chkdsk file fragments, and manages restore points. find.pcworld.com/64313

Revo Uninstaller: Unlike Windows' own program uninstaller, the VS Revo Group's portable freebie removes junk that an unwanted program's uninstall routine leaves behind. Revo can't uninstall 64-bit applications, however. find.pcworld.com/64314

EasyCleaner: ToniArts' free batch of tools overlaps CCleaner, but it's better at emptying an overloaded hard drive. The Space Usage tool scans your hard drive (or a selected folder) and details how much space each folder takes up. find.pcworld.com/64315

SuperAntiSpyware Online Safe Scan: Updated every day or so, this free, portable malware scanner comes as an MS-DOS program (with a .com extension), but it loads the familiar Windows interface and works in 64-bit environments. find.pcworld.com/64316

HijackThis: This malware fighter from TrendMicro produces a thorough—albeit for most people, unreadable—report of problems.



THE PORTABLE VERSION of CCleaner repairs items in the Registry and sweeps away other clutter; it's a must-have diagnostic program.

(See find.pcworld.com/64344 for a list of forums where you can upload your report and likely get helpful answers.) find.pcworld.com/64317

Recuva: Utilities designed for undeleting files should be portable, since installing a program reduces your chances of recovering a lost file. My current favorite free file-recovery program comes from Piriform, the folks responsible for CCleaner. Make sure that you download the portable version. find.pcworld.com/64318

—Lincoln Spector

Select and Install a Suitable Solid-State Drive

AS PRICES ON solid-state drives drop, and as operating systems (notably Windows 7) take advantage of SSDs' speed potential, should you put one in your PC?

Why switch? An SSD typically reads data faster than a hard-disk drive does (more than 60 times faster, Intel figures show); but an SSD's write speeds may be slower than a 5400-rpm HDD's.

As a result, an SSD is better for holding an OS or apps—and weaker at handling heavy photo/video editing or storing media, either of which demands fast write speeds and inexpensive storage (a 1TB SSD currently costs $3000, while a 1TB HDD costs $90 or so). And on laptops, SSDs tend to be far less battery-intensive than HDDs; the battery-life difference may be as great as a few hours in some instances.

Choose a drive: Cheaper SSDs are significantly slower than top-of-the-line alternatives, negating a key SSD virtue.

You also need to know the size of drive and the kind of interface your PC accepts. If your system has an older IDE or parallel ATA drive interface, its speed gain from an SSD won't be large. To determine what interface you have without rummaging in your system's Device Manager menus, download and open CrystalDiskInfo (find.pcworld.com/64145); if this utility says the interface is serial ATA, you're good to go.

Next, you have to calculate the drive size that you need. Desktop PCs typically have a 3.5-inch drive bay; most laptops have a 2.5-inch bay; and netbooks usually have either a 2.5-inch or a 1.8-inch bay (on some, the drive slides out on a card). Also, some drives come bundled with a desktop installation bracket so you can install a smaller hard drive in a 3.5-inch bay.

INTEL'S FAST, AFFORDABLE, 160GB X25-M is the highest-rated model on our Top 5 Solid-State Drives chart.

Install the drive: Installing an SSD in a desktop PC is simple: Open the case and insert the SSD into an open drive bay. Performing the same operation on a laptop or netbook is a bit trickier. Usually you can reach the hard drive in one of three ways: via the battery slot, under the keyboard, or behind a panel on the bottom of the PC.

You'll have to locate the instructions for your system yourself (online, search for "how to upgrade *model name* hard drive"); but if you've never performed PC surgery before, don't worry—the operation isn't too hard.

—Patrick Miller

ANSWER LINE **ASK YOUR QUESTION AT FORUMS.PCWORLD.COM**

How can I access my old Outlook Express and Windows Mail messages in Windows 7?

—Marsha Naylor

WINDOWS 7 COMES with a free e-mail program called Windows Live Mail that can import mail from earlier Microsoft programs.

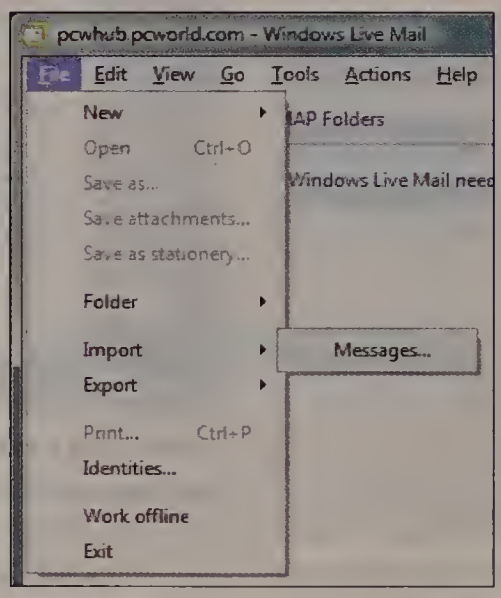
If you ran an Upgrade install from Vista, install Windows Live Mail. Your old messages will appear in the 'Storage folders' section.

If you ran a Custom (advanced) upgrade from XP or Vista, follow these directions:

1. Download and install Windows Live Mail (find.pcworld.com/63313).

2. Set Windows to show hidden files: Launch Windows Explorer, and select *Organize•Folder and search options*. Click the *View* tab. Choose *Show hidden files, folders, and drives*, and click *OK*.

3. Launch Live Mail, and run the 'Add an E-mail Account' wizard.



PRESSING THE <Alt> key in Windows Live Mail opens its old-fashioned menus.

4. Press the **<Alt>** key to bring up the program's menus; select *File•Import•Messages*.

5. Upgrading from Vista? Select *Windows Mail* in the Import wizard, and follow the prompts. Your mail is likely in the folder C:\Windows.old\Users*your log-on*\AppData\Local\Microsoft\Windows Mail\Local Folders, where *your log-on* is your Windows username. Upgrading from XP? Select *Microsoft Outlook Express 6* in the Import wizard, and follow the prompts. Your mail is likely in the folder C:\Documents and Settings*your log-on*\Local Settings\Application Data\Identities*a long number*\Microsoft\Outlook Express, where *your log-on* is your Windows username, and *a long number* is just what it sounds like.

6. To keep hidden files hidden, repeat step 2; but this time, select *Do not show hidden files, folders, and drives*.

You'll find your old e-mail messages collected in the 'Storage folders' section, under Imported Folder\Local Folders.

—Lincoln Spector

RICK BROIDA'S HASSLE-FREE PC

Correct Common Windows Problems With One Click of a Button

HAVE YOU EVER wished for a magic wand that could fix annoying Windows problems? Like, say, a missing Recycle Bin icon, or an excess of pesky Runtime Error messages in Internet Explorer?

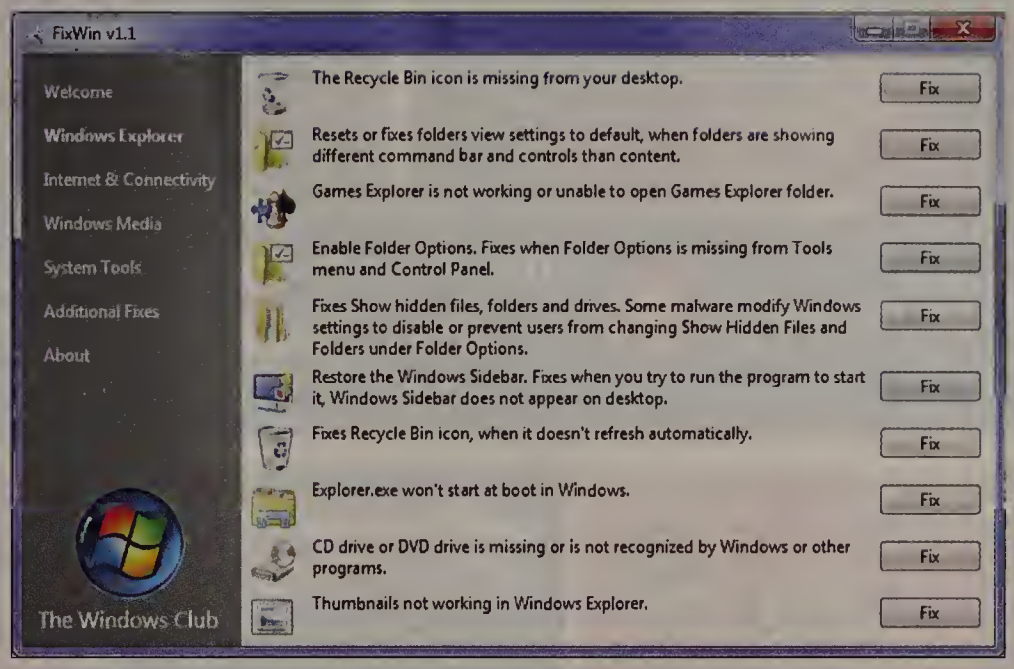
FixWin (find.pcworld.com/64320) is that magic wand. This ingenious free utility requires just over 500KB of space, runs without installation, and quickly fixes 50 different Windows glitches—many of which would normally require a scary trip to the Registry. The fixes fall into five categories: Windows Explorer, Internet & Connectivity, Windows Media, System Tools, and Additional Fixes.

Each problem is presented with a brief but thorough description. For example: "CD drive or DVD drive is missing or is not recognized by Windows or other programs." (Been there!) To correct a problem, just click the corresponding *Fix* button.

It's that simple. And before you get started, FixWin can scan your machine for corrupted system files—and fix them. It also lets you create a System Restore point before making any changes, a smart precaution.

FixWin won't solve all of your Windows issues; but if it can correct just one, it's well worth the download.

> The FixWin utility makes many practical tweaks single-click operations. Also: Use Aero Snap for fast file management; and fix a printing faux pas.



NEED A PC FIX FAST? The FixWin utility conveniently repairs 50 different computer problems in minutes. It's free and requires no installation.

Manage Files With Aero Snap

In my early computing days (I'm talking Commodore Amiga here), I grew accustomed to file managers that used a side-by-side approach: My complete file system was represented in two adjoining windows, which made moving or copying files and folders extremely easy.

Consequently, I've never really warmed to Microsoft's Windows Explorer, which incorporates a single file-tree structure that needlessly complicates tasks as common and simple as moving a file from one folder to another.

Fortunately, if you're a Windows 7 user, you can take advantage of two new additions to that operating system that together make file management much easier. Feature #1 is Windows Explorer's new home on the taskbar. Feature #2 is Aero Snap.

See where I'm going with this? All you have to do is open two instances of Explorer, and then drag one to the left edge of the screen and the other to the right. Aero Snap will dock them on the left and right halves of the screen, respectively.

Now you have a side-by-side file manager! By the way, if you're not sure how to open the second instance of Explorer, right-click its icon in the taskbar and then click *Windows Explorer*.

Speed Aero Snapping With Keyboard Shortcuts

You can use Aero Snap to perform the same tasks—but to do them much faster—by using keyboard shortcuts. Instead of dragging each window to a screen edge, waiting for it to half-maximize, releasing the mouse button, and repeating the same series of steps with the other window, you can rely on the <Windows> key.

Specifically, tap **<Windows>-<Left Arrow>** to "snap" any selected window to the left side of the screen. As you'd expect, tapping <Windows>-<Right Arrow> snaps the selected window to the right side. (This trick comes in especially handy if you use multiple monitors, as you can't drag a window to the right edge of your left-hand screen or to the left edge of your right-hand screen.)

While we're on the subject, I should note that <Windows>-<Up Arrow> maximizes the selected window, whereas <Windows>-<Down Arrow> restores the window to its previous location and size.

Here's another time-saving tip: You can quickly open the second instance of Explorer by middle-clicking its icon in the taskbar.

So limber up your fingers at the keyboard, and have fun snapping!

Make Web Pages Print Properly

A few days ago, the missus shoved some sheets of paper in my face and asked, "Why are Web pages printing big all of a sudden?"

Sure enough, the print on all of the pages was comically oversize, with much of the actual Web page cut off on the right side.

Not good. So I fired up Firefox (her browser of choice), loaded a recipe page, and clicked File•Print Preview. Basically, I wanted to see if the preview matched the actual output—and it did. Here's why: The 'Scale' setting had somehow gotten bumped to 150 percent.

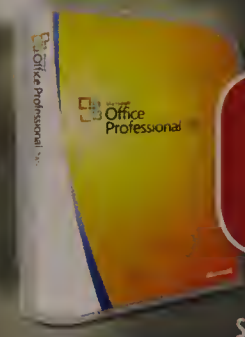
I changed it back to the almost-always-preferable setting 'Shrink to Fit', and presto: Normal print size restored.

Internet Explorer has a very similar setting, so if you encounter weirdly large or small text on your Web-page printouts, make sure that your browser scales are set properly.

Students, Educators and Schools

Save up to 85% Off Retail

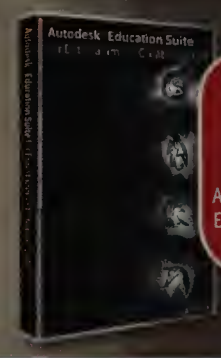
~~$999~~
$199.98*
Win #EQ44471033
*Pricing for college students only.



as low as
$79.98
Office Professional 2007

See if you qualify at
www.JourneyEd.com/spwmr

~~$399~~
$49.98*
Mac & Win #EQ11911256
*When purchased with Abode CS4 or Wacom tablet.



~~$4995~~
$349.98
AutoDesk Education Suite for Entertainment Creation 2010
Mac & Win #EQ100965793

journeyEd.com

Use Priority Code 684931 and get $10 Off any order over $99

www.JourneyEd.com/pwmr • 1.877.652.2187

Offer expires 4/31/2010. Pricing may vary and subject to change without notice.

Granite
D•I•G•I•T•A•L

High End External FireWire and SATA Cables

Host Adapter
HUB/Repeaters
Gender Adapters

(888) 819 - 2190
granitedigital.com

InSightCruises.com/Mac-10
May 2-9, 2010

Mac Mania 10

Roundtrip NYC to Bermuda

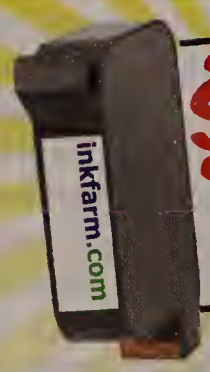
DRIVESAVERS® DATA RECOVERY

We can save it!®

Want proof? www.drivesavers.com 800.440.1904

© 2009 DriveSavers, Inc. All Rights Reserved. DriveSavers Data Recovery, the DriveSavers logo and "We can save it!" are registered trademarks of DriveSavers, Inc.

NEW LOW PRICE!



$6.99 (Wow!)
Qty 3+
Qty 2: $7.99
Qty 1: $8.99
Remanufactured HP 51645a (No. 45) ink cartridge.

More great deals at...
1-800-INKFARM
inkfarm.com
the ink & toner supersite.™

Third Edition
Updated for the iPhone 3GS and 3.0 software!

Be an iPhone & iPod Touch Pro

Get the most out of your devices with this 172 page e-book.

ORDER NOW!

macworld.com/superguide

Macworld Superguides are available in 2 convenient formats for only $12.95:
- Downloadable PDFs: Get immediate access
- PDF on CD-ROM: Order the CD-ROM and always have a back-up

PC World

PHONE:
415/243-0500

FAX:
415/442-1891

E-MAIL:
letters@pcworld.com

WEB:
www.pcworld.com

MAIL:
PC World Editorial
501 Second St. #600
San Francisco, CA
94107

Please Recycle This Magazine

PRESIDENT, CEO Mike Kisseberth
EXECUTIVE ASSISTANT Caroline Ward

ADVERTISING SALES

VP, SALES
Stacey Levy (415/978-3255)

DIRECTOR OF SALES
Gabe Rogol (415/974-7373)

EAST

EASTERN ACCOUNT DIRECTOR
Amy Singer (201/634-2317)

ACCOUNT MANAGER, BUSINESS DEVELOPMENT
Kathy Rebello (508/820-0440)

SALES ASSOCIATE
Shari Redan (207/899-2099)

MIDWEST

SENIOR ACCOUNT DIRECTOR
Kathy McKay (847/251-9274)

SALES ASSOCIATE
Shari Redan (207/899-2099)

WEST

NORTHWEST ACCOUNT DIRECTOR
Elaine Ebner (415/267-4578)

SOUTHWEST ACCOUNT DIRECTOR
Cindy Hamilton (949/442-4005)

SALES ASSOCIATE
Chrissy Schneider (415/978-3269)

SALES MANAGER, BUSINESS DEVELOPMENT
Duane Hampson (415/978-3133)

SALES ASSOCIATE
Meggen Thorp (415/978-3266)

SALES MANAGER, BUSINESS DEVELOPMENT
Niki Stranz (415/243-3664)

ACCOUNT MANAGER
Carol Johnstone (415/978-3390)

ACCOUNT COORDINATOR
Paul Moretti (415/243-3575)

PC WORLD REPRINTS

permissions@pcworld.com

PCWORLD.COM AD OPERATIONS

DIRECTOR, AD OPERATIONS
Kevin Barden

AD PROJECT MANAGER
Leilani Lopez

AD OPERATIONS COORDINATORS
Keri Campbell, Andrew Galluccio

RESEARCH AND MARKETING

VP, STRATEGIC INTELLIGENCE
Jessica Lilie

MARKETING MANAGER
Jim Hopkins

RESEARCH ANALYST
Kyle Flick

CONSUMER MARKETING

PROCIRC, SUBSCRIPTION MANAGEMENT
Shawne Burke Pecar

PROCIRC, SUBSCRIPTION MANAGEMENT
Megan Guard, Susi Chapman

PROCIRC, RETAIL SOLUTIONS
Mark Peterson, Scott Hill

PRODUCTION

DIRECTOR, PRODUCTION
Nancy Jonathans

ASSISTANT PRODUCTION MANAGER
Eliza Wee

PREPRESS MANAGER
Tamara Gargus

ONLINE MANAGEMENT

EXECUTIVE VP/GENERAL MANAGER, ONLINE Stephan Scherzer

VP, BUSINESS DEVELOPMENT
Ulla McGee

DIRECTOR, BUSINESS AND PRODUCT DEVELOPMENT Brian Buizer

SENIOR PROGRAM MANAGER
David Lake

DIRECTOR, ONLINE MARKETING
Alexa Wriggins

NEWSLETTER SERVICES MANAGER
Michael E. England

EMAIL MARKETING MANAGER
DW Malouf

BUSINESS DEVELOPMENT COORDINATOR Alisha Billingsley

ONLINE BUSINESS INTERNS
Nicholas Swanson, Toni Panayotov

WEB DESIGN

DIRECTOR, WEB DESIGN
Jason Brightman

USER INTERFACE DESIGNER
Sky Collins

USER INTERFACE DEVELOPER
Ryan Eilders

SENIOR VIDEO PRODUCER
Chris Manners

TECHNOLOGY

CHIEF TECHNOLOGY OFFICER
Aaron Jones

DIRECTOR, IT & WEB OPERATIONS
Sean Greathouse

IT MANAGER Walter Clegg

SYSTEMS ANALYST Eileen Quan

SENIOR SYSTEM/NETWORKS ADMINISTRATOR Wil Schultz

SENIOR WEB OPERATIONS ADMINISTRATOR Andrew Trice

DIRECTOR, APPLICATIONS DEVELOPMENT Jim Hutson

SENIOR APPLICATIONS DEVELOPERS
Wei Ming Xu, Bill Cappel, Alexis Barrera, Justin Counts, Kieran Fitzpatrick, Paul Hinks

HUMAN RESOURCES

VP, HUMAN RESOURCES
Kate Coldwell

HUMAN RESOURCES REPRESENTATIVE
Ellen Cobb

FINANCE

SENIOR VP, COO/CFO Vicki Peilen

DIRECTOR, FINANCE Diane Ryczek

DIRECTOR, ACCOUNTING
Michelle Reyes

DIRECTOR, FINANCIAL AD OPERATIONS Diane Hacker

DIRECTOR, ADVERTISING ACCOUNT SERVICES Kevin Greene

STAFF ACCOUNTANT
Scott Lum-Duenas

ADVERTISER'S INDEX

Type find.pcworld.com/ plus the five digit number below, to go directly to any advertiser in this list.

Advertiser | Page	Find-It #	Advertiser | Page	Find-It #
1&1 Internet Inc. | C2-1	63794	iBuyPower.com | 53	63806
1&1 Internet Inc. | 27	63795	iProlog Inc. | 63	63784
Aberdeen | 87	63811	KVC Hosting | 4	63804
Acer America Corp. | 33-40	63780	Moneual Lab | 15	63785
American Express | C4	63793	Newegg.com | 49	63786
APC | 57	63803	Panasonic | 2	63799
BitDefender Security | 43	63792	Patriot Memory | 22	63807
Bose | 21	63791	pcAmerica | 67	63788
Cartridge World | 55	63812	Qwest | 31	63798
CDW | 28	63802	Siber System, Inc. | 17	63789
Citrix Systems | 8	63796	Siber System, Inc. | 88	63790
Crucial Technology | 6	63781	SpectorSoft Corp | 45	63797
CyberPower Inc. | 77	63782	TP-LINK Corporation | 11	63808
DSolution | 5	63801	TRENDnet | 19	63787
Eset (NOD32) | 75	63783	Webroot Software | C3	63810
G7 Productivity Sys. | 61	63809	ZINGAWEB | 10	63805
Gevalia Kaffe | 25	63800		

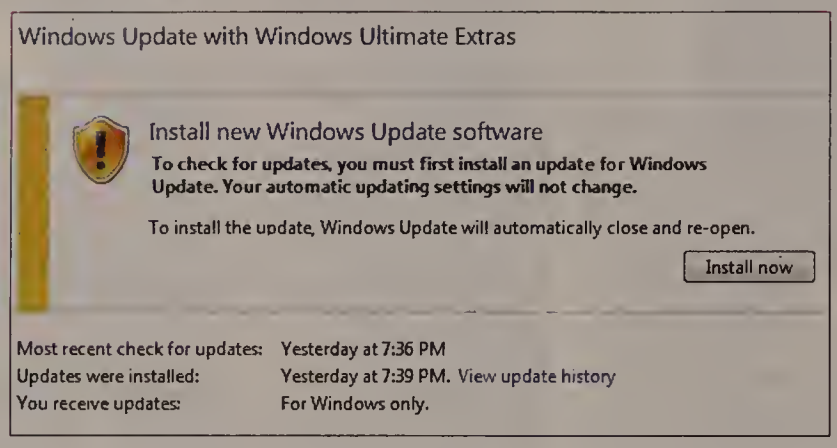
IDG INTERNATIONAL DATA GROUP

Volume 28, number 3. *PC World*™ (ISSN 0737-8939) is published monthly at $24.95 for one year (12 issues), $49.90 for two years (24 issues), $74.85 for three years (36 issues) by PC World Communications, Inc., 501 Second Street #600, San Francisco, CA 94107. Foreign orders must be prepaid in U.S. funds with additional postage. Add $12 per year for Canada; add $30 per year for airmail for all other countries. Canadian GST Registration #R124669680. Periodicals Postage Paid at San Francisco, California, and at additional mailing offices. Canada Post Publications Mail Agreement #40612608. Return undeliverable Canadian addresses to: Bleuchip Intl., P. O. Box 25542, London, ON N6C 6B2. POSTMASTER: Send address changes to PC World, Subscription Dept., P.O. Box 37571, Boone, IA 50037-0571. Editorial and business offices: 501 Second St. #600, San Francisco, CA 94107, 415/243-0500.

Copyright © 2009, PC World Communications, Inc. All rights reserved. The trademark PC World is owned by International Data Group and used under license by PC World Communications, Inc. Technology Advice You Can Trust™. PC World Top 10™, Top 10™, PC World Top 100™, Top 100™, and Consumer Watch™ are trademarks of International Data Group, Inc., and used under license by PC World Communications, Inc. Printed in the United States.

The Back Page

Upgrade Madness



PCWorld reader Peter Forman sent us this befuddling Windows Vista screenshot. Not surprisingly, he calls it "Why I Upgraded to Windows 7."

The Mind of a Digg User

You've seen Digg.com, with its eclectic mix of stories, all promoted to the site's front page by Digg community members. So who is the typical Digger? The folks at ngonlinenews.com think they know, and they've captured him below in his natural habitat.

Plugged In

Social Separation According to British divorce lawyers, Facebook is cited in 20 percent of divorces. Maybe having the "poke" option right on the home page was a bad idea.

3D Fashion Manufacturers say 2010 will be the year of 3D TV. If that's so, how come the 3D glasses look like they were made in 1958?

Android Invasion AT&T announces five new Android phones coming to its network—or as iPhone users might say, five more ways to get lousy data service.

Twits in Motion Ford's Internet-connected dashboard will let you tweet while driving. Conveniently, "I got distracted and crashed the car" is well within Twitter's character limit.

PC Prices to Rise Gartner Research predicts that, after six years of declines, system prices will head north in 2010. That means a laptop could soon cost more than an unlocked phone. Outrageous!

—JR Raphael and Steve Fox

Have an idea for a Back Page item, from an offbeat screen shot to a fun tech billboard? Send your suggestion to TheBackPage@pcworld.com. You'll earn a small slice of fame, our undying gratitude, and a nifty *PCWorld* mug.

ILLUSTRATION ROBIN RICHAROS. GDS DIGITAL. NGONLINENEWS.COM

There's safe.

And then there's really safe.

With best-in-class security technology and free, U.S.-based telephone support, no one keeps you safer than Webroot. Find out why Webroot products are recommended by experts and trusted by over 20 million users worldwide. Run a free scan for viruses and spyware at **www.webroot.com/pcscan** or call 1-866-915-4130 for more information. See why there's safe, and then there's Webroot safe.

© 2009 Webroot Software, Inc. All rights reserved. Webroot is a registered trademark or trademark of Webroot Software, Inc. in the United States and other countries

The Best Security in an Unsecured World™

webroot

Pay early *or* defer payment – either way, it's money in the bank.

"The Plum Card seemed like a natural way to save some money. I saved thousands of dollars over the course of a year, and it was a no-brainer."

- Thomas Tranguch, *T&F Tire Supply Inc.*, Member Since 2008

The Plum Card® from American Express OPEN offers flexible payment terms. If your established business pays your bill early, you get a 1.5% discount that can add up to thousands of dollars that go right back to the bottom line. Or your business can defer payment if cash flow is ever less than steady.

This kind of flexibility gives you the option to choose, each month, which way to pay. And puts more cash back in your hands.

Is the Plum Card right for you?

Visit **plumforbusiness.com** to see how other businesses use the Plum Card to their advantage. Or call **1-866-620-PLUM. Then decide for yourself.**

AMERICAN EXPRESS OPEN

Pay your balance in full within 10 days of the statement closing date and get a 1.5% discount on virtually all purchases made that month. The discount will appear as a credit on the following billing statement. Pay 10% of the balance from new activity on your billing statement plus the entire amount of any previously deferred payment or amounts past due by the "Please Pay By Date" on that statement and you can extend payment on the rest until the closing date of your next billing cycle without penalty. Visit plumcard.com for details. ©2010 American Express Bank, FSB. All rights reserved. P04